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LECTURES

ON THE

Diseases of the Nervous System,

BY

DR. CLUTTERBUCK.

Lecture I.

We are now about to commence, Gentlemen, with a class of diseases, the study of which is attended with much difficulty; and which I cannot hope to treat in a manner altogether satisfactory, either to you or to myself. This difficulty arises from the natural and inherent obscurity of the subject. We are but very imperfectly acquainted with the intimate structure of the parts constituting what is called the *nervous system*; and still more so, with regard to the manner in which they perform their important functions. Where the *physiology* is so imperfect, it is not to be wondered at that the *pathology* should be so little understood. The obscurity that involves almost every thing belonging to the *nervous system* and its functions, has been a fertile source of hypothesis and conjecture. The wildest and most contradictory notions have been entertained with respect to the diseases of this part of the animal economy; while the greatest confusion of language is to be observed, in the attempts that have been made to designate these affections. In order to render the subject as intelligible as possible, it will be necessary to give a brief outline of the different structures comprised under the denomination of the *nervous system*; pointing out their different uses and offices, as far as these are understood. This will prepare us for comprehending the various disordered states to which they are liable, and so lead us gradually on to the treatment.

Under the term, *nervous system*, there are included: 1st, the *brain*, and its prolongation, the *spinal chord*;—2d, the *nerves* (with their appendages, the *ganglions* and *plexuses*);—3d, the different *organs of sense*;—and, 4th, as an essential part of the same system, the *muscles of voluntary motion*.

The parts that have been hitherto described, with their diseases, viz. the sanguiferous and absorbent systems, the organs of supply, of secretion, and of excretion, constitute all that is required for individual existence, having little relation to, or connexion with, surrounding beings. Such a simple state of existence is seen in the lowest scale of animal life, the individuals of which appear to possess only the faculties of taking in food, and of converting it into their own substance, by the processes of digestion and assimilation. Even a plant does all this, though by a more simple organization. We cannot, it is true, find in plants, as in animals, a heart, arteries, veins, and absorbents: but we know that they possess vessels of different kinds, which perform a variety of important actions, analogous with animal circulation, absorption, secretion, and nutrition. Like animals, they take in extraneous matter, and convert it into their own substance;—they distribute their fluids throughout the whole of their structure;—and they *secrete* or form a variety of new substances;—as gums, resins, essential oils, acids, sugar, &c., by processes not at all less wonderful than those by which animals generate bile or urine, and equally beyond our comprehension.

But the higher races of animals are destined by Nature to perform functions of a still more elevated kind. They are connected with surrounding beings, and with one another, by ties of necessity, and of enjoyment. To enable them to perceive those beings, and either to approach or to avoid them, as they happen to be objects of desire or aversion, they required organs of *sensation*, (the *nerves*,) and of *voluntary motion* (the *muscles*). *Sensation* and *voluntary motion*, then, are the characteristics of animal life; as distinguished from mere vegetable existence. Upon these two principles, all the distinguishing operations of animal life depend;—and the one of these necessarily implies the existence of the other: for to *feel* without

being capable of *moving*, would be worse than useless, as we might suffer an injury without the power to avoid it; or a want, without the means of gratifying it; which would argue a kind of injustice in the constitution of things;—and, on the other hand, movement without sensation, would be to act without a motive—an effect without a cause.

Man, then, by means of his nerves and their terminations in the different organs of sense, is not only rendered sensible of the existence of surrounding objects, but is made acquainted with their various properties. He can compare, and reflect upon, the different sensations thus produced, so as to form a judgment of them, in regard to their agreeableness and usefulness, or the contrary,—and he comes to a determination to seek or avoid them accordingly. These are operations of the *mind* or *intellect*, and they are performed through the medium of the *brain*.

Whether the *irritability* and *mobility* of plants, are dependent on an influence similar to that of the nervous system in animals, but which is universally diffused throughout their substance, without any peculiar structure devoted to the purpose, is unknown, though far from improbable. The fact lately ascertained by Marcet, of Geneva, that plants, like animals, may be *poisoned*, both by mineral and vegetable poisons, and apparently by sympathy, supports the idea of their possessing something analogous with the nervous system of animals.

The following is the order in which the phenomena belonging to the *nervous system*, take place.

An impression being made, of a certain kind and with a certain degree of force, upon some sentient part of the body, a sensation is excited which is conveyed to the *brain*, by the nerves of the part upon which the impression is made. It is in the brain that the sensation is perceived,—in other words, where we become conscious of what is taking place. This *perception*, or *consciousness*, is the first stage of *mental operation*. As the sensation produced happens to be agreeable or otherwise, the object producing it becomes an object of desire or aversion, and a determination is made to obtain or to avoid it, according to its nature. This is a further operation of the *mind*, and which, in common with all the other mental operations, is performed in the brain, as the organ of the intellectual powers. The *will*, or determination of the mind, thus emanating from the brain, is conveyed to the moving powers, the *voluntary muscles*, the primary instruments by which the purposes of the mind are effected. The medium of communication in this case, also, is the *nerves*; and apparently, the same nerve answers both purposes, that of transmitting the impression from without to the brain, and that of conveying the determination of the mind, or *will*, to the voluntary muscles. As, however, the nerves, when examined, are found to consist of numerous fibrils included in the same external covering, but proceeding distinctly from each other, and without *anastomosis* or intermixture of substance, the nerves of *sensation* and of *voluntary motion* may still be considered as separate and distinct.

The part performed by each of the structures mentioned respectively, in regard to *sensation* and *voluntary motion*, is sufficiently ascertained by very simple experiments, as well as by the effect of injuries and disease. If a nerve be divided or strongly compressed, in any part of its course, neither will an impression made upon its sentient extremity be perceived, nor will the mind be able to put the muscle, to which the nerve is sent, into action: *sensation* and *volition* are both intercepted. So also if the brain itself be accidentally injured, or so altered by disease in the particular part in which the nerve originates as to be wholly unfit to perform its office, *sensation* and *volition* are, in this case, equally annihilated.

As therefore the functions belonging to the *nervous system* are, as I have just stated, *sensation*, *voluntary motion*, and *mind*, it is in the disordered state of these functions chiefly, that we expect to find the proofs of the existence of disease in those organs.

The part which each portion of the *nervous system* performs in this series of functions, may be pretty well understood, from what I have already said. But for practical purposes, it will be necessary to make a further division of the subject, and which may, I think, be usefully done, as follows. We may consider, 1. The cranial portion, or *encephalon*, including the *brain* altogether, with its membranes and vessels. 2. The *spinal chord*. 3. The *nerves*, with their appendages. 4. The different *organs of sense*; and 5. lastly, the *voluntary muscles*. The affections of these different parts I shall treat of separately, and somewhat in detail, beginning with the brain, or cranial portion, as the centre of this system, and that which, in its diseased state, furnishes the greatest variety of morbid affections.

1. *Of the Brain and its Diseases.*

The brain, instead of being considered as a single organ, is to be looked upon rather as an assemblage of organs, each differing from the rest, both in structure and in office. Anatomy shows us a great number and variety of parts, and which, from the constancy with which they are found, cannot but be supposed to be of importance in the general

economy of the organ; but the particular purposes served by them, are but very imperfectly understood. Certain parts we know to be appropriated to certain functions. Thus *vision* and *hearing* are obviously dependant upon particular parts of the brain, the seat of which is sufficiently ascertained. Many other parts we do not know the use of; and this imperfect state of the physiology of the brain is, no doubt, a great cause of the obscurity that involves many, or most of the diseases of this organ. In speaking of the general structure of the brain, I shall confine myself principally to such points as tend to throw light upon its diseases.

When the cranium is sawn through in the usual manner circularly, and near to its basis, upon force being applied it peels off, as it were, from the *dura mater*, to which it every where adheres, with more or less tenacity, according to the age of the patient; the adhesion being stronger the younger the subject, owing to the more vascular state of the membrane, as well as of the bone itself. This membrane, the *dura mater*, may be considered as an internal periosteum to the cranium, though it furnishes processes which answer other purposes, as you will presently see. When the *dura mater* is raised, it discovers the surface of the cerebrum enveloped by its proper membranes, the *arachnoid*, and, under this, the *pia mater*, which is in immediate contact with the organ, and connected with it by cellular texture, as well as by vessels. The upper surface of the brain is marked by numerous rounded projections, of irregular outline, termed *convolutions*, the depressions between which constitute the *sulci* or grooves in which the veins run in their course to the different sinuses, where they deposit their blood. The convolutions are received into corresponding hollows in the inner surface of the cranium,—a proof that the cavity of the skull is accurately filled by the brain.

The convolutions follow no general rule, as to number, size, or figure; nor do those on one side correspond with those on the other. Hence they can hardly be considered as distinct organs destined to the performance of particular functions, as has been of late supposed, but merely as forming grooves for the lodgment of the veins, which are thus guarded in a degree against pressure.

When the brain is turned out of the skull, and its basis superficially inspected, several inequalities are observed, forming prominences and depressions, to which particular, and for the most part very absurd, names have been given. These peculiar configurations are pretty constantly found, and therefore may be naturally supposed to be of importance. But as their particular uses are at present almost entirely unknown, it will not be necessary to take up your time in further noticing them.

The brain, or general contents of the cranium, admits of division; first, into two principal parts, called *cerebrum* or proper brain, and *cerebellum* or little brain. It is the *cerebrum* only that presents itself when the skull-cap is removed, the *cerebellum* being placed behind and rather below the *cerebrum*.

The *cerebrum* again is divided into two equal halves, from before backwards, constituting the two hemispheres, or a right and a left side to the brain. This division is made by a doubling and dipping down of the dura mater, called the *falx*, or *falciform process*, (from its resemblance in figure to a scythe,) and which is tense and unyielding, so as to prevent one of the hemispheres from pressing on the other, when the head rests on its side. A similar production horizontally of the dura mater, and which is called the *tentorium*, serves to divide the *cerebrum* from the *cerebellum*, answering a similar purpose of guarding each from the pressure of the other.

Not only is the cerebrum, as just stated, divided into its two sides or hemispheres, but a similar division may be traced throughout the whole organ to its termination in the *spinal chord*, which, we shall hereafter see, is itself similarly divided, thus constituting the brain a double organ throughout, though the divisions are not every where equally marked. The *cerebellum*, also, like the *cerebrum*, has its two lateral portions, which are separated by a thinner process of the *dura mater*.

These separate portions of brain, both cerebrum and cerebellum, all unite towards the basis, and proceed downwards, under the name of the *medulla oblongata*, till they reach the spinal canal, when the united mass assumes the name of the *medulla spinalis*, or spinal chord. So that the *medulla oblongata*, and the *spinal chord*, may both be considered as made up of processes or prolongations of all the separate parts mentioned, namely, of the right and left sides of the *cerebrum*, (termed *crura cerebri* or legs of the cerebrum,) and of the right and left sides of the cerebellum (called the *crura cerebelli*); —such is the exterior outline of the brain, or cranial portion of the *nervous system*.

As to the *membranes* or coverings of the brain, there is one usually reckoned, which has no connexion with it; namely, the *dura mater*, which is merely an internal periosteum to the skull. The proper membrane of the brain is the *pia mater*, which consists of a tissue of small vessels, connected together by cellular substance. The *pia mater* is every where closely adherent to the surface of the brain, dipping down between its con-

volutions, and, at the basis, penetrating to the ventricles.

Exterior to, and intimately connected with, the pia mater by cellular texture, is a serous membrane, termed the *tunica arachnoides;* this membrane, the arachnoid, is supposed to consist of two layers; the external of which, towards the basis of the brain, is reflected back, so as to form an internal layer to the *dura mater*, similar to the *pleura costalis* in the chest; so that, according to this disposition of parts, the *arachnoid*, like other serous membranes, is a complete sac without opening. The arachnoid is extremely thin and transparent, so much so, indeed, that unless rendered opaque by disease, it is scarcely visible. The surfaces of the arachnoid which are in contact with each other, are continually moistened by a serous fluid, which prevents their adhering together. Now if from any cause this fluid should be in excess, it gives rise to the disease termed *hydrocephalus externus*.

On slicing the brain horizontally (according to the common barbarous mode of conducting the examination of this organ), a difference of colour is observed; the central parts being white, (the *medulla* or *medullary* portion,) and this surrounded by a substance of a dark colour (the *cineritious* or *cortical* portion). The cineritious part may be injected, so as to show a very vascular structure. This cannot be done with the medullary substance, at least I am acquainted with but one exception, which is in the museum of Mr. Langstaff; a few vessels only can be thus filled, and which are, probably, veins, traversing its substance. In the cerebellum, these two portions, the medullary and cineritious, are differently disposed, so as to present, when the part is cut into slices, an arborescent appearance.

Deep in the centre of the brain, and rather towards the basis, certain cavities, called *ventricles*, are found; the two lateral, and the 3d, 4th, and 5th ventricles. All these have communications with each other; and admit of fluids passing from one to the other. In a healthy state of parts, there is very little fluid found in these cavities; and it is even doubtful, whether any sensible quantity exists there during life, though, in general, a small quantity is found after death. There is, in strictness of language, no cavity here, the sides of the ventricles lying in close contact, with the exception of any small quantity of fluid that may be collected in them. By the communication between the ventricles, fluid, when present, may gravitate from one to another, according to the position of the body.

Many anatomists believe, that the ventricles of the brain are lined by a continuation of the arachnoid membrane; and hence, that *hydrocephalus internus* is merely the collected secretion of this membrane. This is very probable. In most cases *hydrocephalus internus* and *externus*, exist at the same time.

In some cases of *hydrocephalus internus*, where the quantity of fluid collected in the ventricles is very large, the convolutions disappear, the upper surface of the brain presenting a smooth appearance, while its substance at this part becomes extremely thin, so as to appear little more than a membrane in point of thickness. This has been attributed to an unfolding, as it were, of the convolutions, in consequence of the expansion from within.

Of the Bloodvessels of the Brain.

The arteries which supply the brain, are of considerable size, and are four in number; viz. the two *internal carotids*, and the two *vertebral arteries*. These enter by separate foramina at the basis of the skull. They anastomose within the skull from side to side; which serves to break the force of the current of blood, a purpose which is further answered by the arteries entering through tortuous bony canals. The arteries ramify minutely on the pia mater, before they penetrate the substance of the brain, where they are invisible from their minuteness, unless distended by injection; and they are then only seen in the membranes, and in the cineritious portion. The quantity of blood sent to the brain is very large: if we may judge from the size of its arteries, in comparison with other parts.

With respect to the *veins* of the brain, a peculiarity exists in regard to their distribution. They do not accompany the arteries, as in most other parts, but the venous blood passes out of the skull at different apertures. They are, consequently, not immediately influenced by the more or less distended state of the arteries. The veins empty themselves into the different sinuses; the principal of which are the *longitudinal* and *lateral* sinuses, situated between the laminæ of those processes of the dura mater that form the partitions between the hemispheres, and between the cerebrum and cerebellum (the *falx* and *tentorium*). By the tense state and inelastic nature of these membranes, the sinuses are guarded against the effects of pressure, nearly as much as if they were lodged in bony canals. The veins enter the sinuses obliquely, and in a direction opposite to the course of the blood through the latter. This has the effect of valves, and tends to prevent a regurgitation of the blood from the sinuses into the veins.

The sinuses terminate in the great veins of the neck, the internal jugulars, which return the blood to the heart.

The brain, like other parts, receives its

supply of blood from the heart, and is, so far, in dependance upon this organ; but the force and velocity with which the blood moves in the brain, and its particular distribution through the organ, depend upon the action of its own vessels. If the supply of blood to the brain be wholly cut off, it will be unable to continue its functions; as is seen in perfect syncope, where, in consequence of the cessation of the heart's action, blood can no longer be sent to the brain. The same thing, probably, would result, if the arteries going to the brain were all tied; but this can hardly be done. Bichat, however, refers to it, as having been done in animals, and with the effect, as he states, of suddenly interrupting the functions of the brain, and soon inducing death.

The dependence of the cerebral functions upon the circulation, or movement of the blood through the brain, is further shown, by the stupor and insensibility that attend the interruption of the return of blood from the head by pressure upon the veins of the neck; which, if complete, would occasion absolute stagnation of the blood in the brain, and probably put an entire stop to its functions. The same effect often follows from a dependent posture of the head, as in stooping. Pressure made upon the brain itself, must have a similar effect in stopping the circulation through the organ; and we know that it occasions a suspension of its functions.

It appears, however, that the functions of the brain are not much influenced by the *quantity* of blood sent out by the heart, nor by the force with which the heart is acting: provided its own vessels perform their office in the proper manner. Thus, the brain is observed to perform its functions almost equally well, when the heart is acting very feebly, as indicated by the pulse; and when acting with great violence, as in acute rheumatism, and other violent inflammations. We have to look, therefore, to the action of the cerebral vessels themselves, in order to explain the varying states of circulation in the brain. And as the arteries are the chief cause of the movement of the blood, it is to these that the principal changes observed must be referred. The full effect however of an increase of arterial action in the brain, can only be understood by adverting to certain peculiarities, that serve to distinguish this organ from others; and which, though pointed out many years ago by the late Dr. Monro of Edinburgh, have been since greatly neglected, or rather wholly overlooked.

In the first place, the skull is a close, unyielding, bony cavity, having no openings but for the passage of blood vessels and nerves, and for that of the spinal chord. These openings (the orbits are scarcely an exception) are all situated towards the basis. The contents of the cranium, therefore, are thus guarded against the direct pressure of the atmosphere.

2dly. The hollow of the skull is completely filled by its contents, namely, the brain, its membranes, and vessels; as is evident from the correspondence in figure between the surface of the brain every where, and the inner surface of the skull; and the same may be observed with regard to the opposite surfaces of the ventricles, which, when no preternatural quantity of fluid is present, are evidently in contact with each other. There is, in fact, no absolute cavity or vacant space to be found, any more than in the other great cavities of the body, (as they are improperly called,) the chest and abdomen.

3dly. There is nothing elastic or compressible within the skull; for neither can the solid substance of the brain itself or its vessels and membranes, suffer compression, so as to be diminished in bulk from pressure; nor is the blood itself compressible in any sensible degree, at least by any force that can possibly be applied during life: and as far as is known, there is no elastic fluid present. These facts must be disproved, before the inferences I am about to draw can be controverted.

The cavity of the skull being always completely filled by its contents, and these contents being incompressible, it cannot of course admit of more; consequently, the absolute quantity of blood within the brain altogether cannot materially vary from time to time. No fresh quantity of blood can find admittance by the arteries, but by displacing an equal quantity from the veins. The language therefore in general use, with regard to the brain being more or less 'loaded with blood,' 'congestion of blood,' and the like, is not correct. The only variations to which the circulation of the brain is liable, are in regard to the force and velocity of the current, and its particular distribution. In these respects, it is subject to great variety. These changes are to be attributed principally or almost wholly to the varying action of the cerebral vessels themselves, and not to the state of action in the heart or general vascular system, of which the brain is in a great measure independent, as I before observed to you.

Another result of the peculiar construction mentioned is, that when pressure is made upon any part of the brain, as by removing a portion of the skull and pressing with the point of the finger upon the exposed surface, the brain itself will be deranged as to its position, and may thereby possibly suffer some disturbance in its functions; but the effects of the pressure will be necessarily communicated to the only com-

pressible parts, the blood vessels, the sides of which will be forced together, and their contents squeezed out. This is as likely to occur in the parts of the brain the most remote from that where the pressure is directly made, as in its immediate vicinity: the cerebral substance being incompressible, it cannot intercept the effect of the pressure as if it had been an elastic substance.

Now I need not observe to you, that the consequence of such compression of the blood vessels, must be a proportionate interruption to the circulation of the brain; and this, probably, is the chief cause of the interruption of its functions, and not the mere derangement in the position of the cerebral matter. That the suspension of functions is owing to the interrupted circulation, is indeed further probable from this circumstance, that the same effects follow from compression of the veins of the neck; and also from a simply dependent posture of the head in many subjects. I shall hereafter endeavour to show, that the symptoms of apoplexy, and of the apoplectic state of fever, that have been attributed to *congestion* or over fulness of vessels in the brain, are, in reality, to be ascribed to the cause I have just mentioned, *stagnation*, or interrupted circulation in the brain.

When a portion of the skull is removed, and the brain laid bare in consequence, and also at the fontanel or junction of the sutures before ossification is complete, we observe an alternate rising and sinking of the brain, corresponding with the action of the heart, and in some degree also with respiration. And it has been inferred from hence, that the same is the case at all times. There is however no proof that this takes place, when the cranium is entire; while it is altogether incompatible with the peculiarities of construction already mentioned. The impulse given to the blood in the cerebral vessels, by the *vis à tergo* derived from the heart and arterial trunks, will be expended in urging the blood forwards, and not in producing expansion of vessels; for which, in fact, there is no room. If, in the perfect state of the cranium, the brain were to recede from it, as is commonly supposed, there must be created a vacuum over the surface of the brain; but this, you must see, is all but impossible.

I may observe further, what at first perhaps you will find it difficult to conceive, that though by bleeding to a great extent, the other parts of the body may be deprived of a great part of their blood, this cannot happen with respect to the brain; and that for the same reason that wine cannot be drawn from a cask, without a counter opening for the admission of air. The impetus of circulation, and distribution of blood in the brain may be thus affected, but the absolute quantity must remain very nearly the same. In the most exhausted and emaciated states of the system at large, the brain appears to contain its ordinary proportion of blood. If, indeed, there is a large accumulation of serous fluid in the ventricles or between the membranes, as in the more chronic forms of hydrocephalus, the substance of the brain exhibits a deficency of blood, by its white and pearl-like appearance.

We shall resume this subject in our next lecture.

FOREIGN DEPARTMENT.

Royal Institute of France.

ANATOMY.

[*Sitting of the Seventh of August.*]

Dr. Bordat read a paper on a Chinese, twenty-one years of age, to the surface of whose breast, an acephalous fœtus was attached. There are two different stories respecting this individual, who was brought to Macao three years ago, and submitted to the inspections of Drs. Lurington and Pearson. During the stay of this latter gentleman at Canton, in January, 1825, he had an opportunity of seeing him constantly for two days, and from Dr. Pearson the following remarks are obtained. The individual was twenty-one years of age, presented no peculiarity of constitution, and had the same colour as the other Chinese. He was of a middle size, and the only difference observed, was that the organs of generation were slightly developed. The fœtus adhered to the sternum, from the fourth to the eighth rib. In this extent, the bone projected to such an extent, as to give it the appearance of the head of the child. M. Pearson was not, however, certain whether this was in reality a projection of the sternum or of some part of the fœtus. The fœtus had neither the dorsal nor the lumbar vertebræ, or at least they could not be discovered by the touch, whilst the cervical could. The upper extremities were very little developed, and no muscles could be distinguished on them; there was nothing but the skin and bones. The sternal extremity of the clavicle rested on the sternum of the adult. A few of the ribs could be felt, and the lower extremities were more fully developed than the upper ones. The

muscles, on the thighs and legs, could be distinctly felt. Both the fingers and toes were provided with nails. The umbilicus was very distinct in the fœtus, and the parts of generation were more fully developed in it in proportion, than in the adult. One of the testicles was in the scrotum, and the other in the inguinal canal. The penis was perforated, and M. Pearson was told that it voided urine, which, however, he did not believe to be the case. The fœtus had no anus; but the folds of the skin in that part were very distinct. The adult felt distinctly when the skin of the child was pinched. The pulse of the adult was quicker than is ordinarily the case in grown up persons; it varied from ninety to a hundred beats in the minute. The individual is probably still living; he returned to his native place, notwithstanding the advantageous offers which were made to him, to persuade him to come to Europe.

The commissioners appointed to report on the above case, were MM. Dumeril, and Geoffroy St. Hilaire.

Sitting of the 28th of August.—Report on the above Case.

M. Geoffroy St. Hilaire read a report on the Chinese monster, which had been the subject of Dr. Bordat's paper, from which the following extract will be found interesting.

This monstrosity consists in the addition of an acephalous fœtus to the epigastric region of a Chinese, about twenty-two years old. The commissioners do not entertain the slightest doubt about the authenticity of the fact, and their conviction of its truth is founded less on the numerous proofs which have been afforded them in the description of the monstrosity, than on preceding parallel cases with which the annals of science abound; for twenty cases similar to the one now under consideration, have been narrated. Ambroise Paré, Beneveninus, Columbus, Montano, and others, have described them. Schenkius relates thirteen such cases, of which three were observed by himself. Aldrovarde gives plates of three others, which he has collected in the same article, under the name of *monstrum bicorpor monocephalon*. There is another case of a Swiss, who was born in 1764, and from whom the acephalous individual was dexterously detached by a surgeon. Winslow also mentions a case of a girl who died in 1733 at the Hotel Dieu. The extreme unction was about to be administered to her, when it was discovered that there was an acephalous fœtus connected to the stomach. This circumstance raised the question, whether the extreme unction ought to be administered to the two individuals? It was on this absurd question that Winslow was consulted; his answer is not known.

M. G. St. Hilaire examined the different points contained in the description, and stated that he had classed all monstrosities of the kind under one genus, which he had termed *heteradelphes*, or dissimilar twin brothers.*

Remarks of Professor Tiedemann on a passage in the Work of M. Serres, entitled, "Anatomie comparée du cerveau, etc."

In the preface to the work of M. Serres on the comparative anatomy of the brain, we find at page 12 the following observations: "Such are the favourable circumstances in the midst of which this work has been composed. The principal results contained in it are already known by the extended report which Baron Cuvier published in 1821. We recollect the sensation which this report created among anatomists. In the course of the years 1822 and 1823, different anatomists, both French and foreign, published on the same subject, the researches to which the prize proposed by the Academy of Sciences for 1821 had given rise, and which prize was adjudged to my production."

Here M. Serres adds a note, which concerns me, and is indeed that which has compelled me to publish the following statement. M. Serres' note is as follows: "This remark is not applicable to the first production of the celebrated Tiedemann, entitled, '*Anatomy and Formation of the Brain of the Human Embryo*,' published in 1816, and with which I became acquainted in 1821. The second part which this illustrious anatomist appears to have composed at the same time as he composed the work which he sent to the Institute on the occasion of the prize, has been put by his learned translator, Dr. Jourdan, on a level with the present state of our information."

At first I deemed it quite useless to combat the high pretensions advanced by M. Serres, with an air of unbecoming assurance, when he was endeavouring to appear in the eyes of his countrymen, as the author of important discoveries on the structure and mode of formation of the brain of man and animals. The facts which I could enumerate on this occasion, have not quite escaped the attention of anatomists, whose knowledge keeps pace with the improvements of the age. For these reasons I shall confine my-

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* A curious model of a Chinese, presenting just another such monstrosity, may be seen in the council room of the College of Surgeons. It was presented to the College by Mr. H. L. Thomas.—Ed. L.

self to what professor Meckel has said on this subject in the *Deutschen Archives für die Physiologie*, B. V. 7, p. 349: "As it is only justice to give to every one his due, in our love for truth, we submit to the notice of M. Serres some of the works, which, treating of the same subject as his work treats of, are all of a date prior to his." T. and C. Wenzel (*Prodrome eines Werkes uber das Gehirn. Tubing.* 1806, *de Penctiori Structurâ cerebri Tubing.* 1812.) The papers of Reil on the structure of the brain, inserted in his Archives. Arsaky (*de Piscium Cerebro et Medullâ Spinali, Halle*, 1812); Carus (*Anat. et Physiologie des Nerven Systems*, Leipzig;) Dollinger (*Beiträge zur Entwickelungs-geschicte des Menschlichen Gehirns*, Frankfurt, 1814); J. F. Meckel (*Versuch einer Entwickelungs-geschicte der Central theile des Nerven Systems in der Saugethieren*) in the Archives of Physiology for 1815); Tiedemann (*Anatomie und Bildungs-geschicte des Gehirns in Fœtus des Menschen*, Nuremberg, 1816); and, lastly, the inquiries of J. R. Triviranus (*Untersuchungen über der Bau und die Functionen des Gehirns Bremen*, 1820). If M. Serres peruses these different productions, he will not fail to perceive that nearly all the facts, inductions and just comparisons which his work contains, had been known for a long time, and that several of the assertions which are peculiar to himself, are far from being true, and are refuted in advance by the facts observed and described, by authors to whose statements credit may be attached. Meckel is not the only one who has given this opinion on the work of M. Serres. Similar opinions by M. Foedera will be found in the *Journal Univ. des Sciences Med.* T. XXXVII. p. 97, and by M. Ollivier, in the *Archives Gen. de Med.* Tom. VII. p. 268.

As for the note which concerns me, and in which M. Serres justifies in some degree the opinion of the celebrated reporter of the Academy, (Baron Cuvier,) there appears to me some necessity for explanation. I shall first ask, with what view has the author added the note? Was it to pay a tribute to truth! Undoubtedly not; and M. Serres's only object in writing a note which contains as many falsehoods as lines, was evidently to give to his work an air of originality which might seduce his countrymen.

Indeed, if we examine each of the assertions, we see first that the title given by M. Serres to my work, is completely false; for the terms in which it is conceived are not *Anatomy and Formation of the Brain of the Human Embryo*, but those given in M. Jourdan's translation "Anatomy of the Brain, containing the history of its development in the Fœtus, with a comparative exposition of its Structure in Animals." This work, then, embraces the whole of the subject which M. Serres appears to have treated in a manner entirely new. Moreover, he adds, that it was only in 1821, in the month of March, that he became acquainted with my work, having then received it from Baron Cuvier. If M. Serres was not acquainted with the original before that period, he could not have been ignorant of its contents, for an extended analysis of it had appeared in 1817, in the *Journ. Univ. des Sc. Med. Sept.* p. 281.

M. Serres has again gratuitously advanced, that the second part of my work, in which the different degrees of organization of the brain of the fœtus are compared with those of the animals of the four superior classes, does not appear to have been composed till later, and precisely at the time when I published my *Anatomia cerebri singularum et quorumdam Mammalium variorum, Heidelberg*, 1821, a work which I had determined, as corresponding member of the institute since 1812, to send to that learned body. M. Serres goes even so far as to say, "on the occasion of the prize," as if I should have ventured to try for any prize for which M. Serres was a competitor! I will also remark, that M. Serres, in stating that M. Jourdan had placed my work on a level with our present state of knowledge, has stated what is false, for M. Jourdan has added nothing but a preliminary discourse.

What appears most ridiculous is, that M. Serres should compliment me as "celebrated and illustrious:" does he think that such words from his pen or mouth will silence the just indignation which his conduct has raised in my mind. Let the matter be as it may, the assertions which I have refuted having given rise to unpleasant interpretations respecting me, I feel myself obliged to publish a letter which Baron Cuvier sent me at the time; it will serve to enlighten those of his countrymen whom M. Serres, by an appearance of good faith, may have led into error.

Paris, 15 *Janvier* 1821.

MONSIEUR ET CHER CONFRERE,

Je viens de recevoir votre ouvrage sur les voies par où les substances avalées arrivent dans le sang. J'ai présenté à l'académie l'exemplaire qui lui était destiné, et je vous prie d'agréer ses remerciemens. Veuillez aussi recevoir les miens pour celui dont vous m'avez honoré. Votre mémoire sur l'ours paresseux nous était arrivé dans son temps, et je m'étais empressé de vous en remercier. Je regrette beaucoup que ma lettre ne vous soit pas pervenue, mais j'aperçois de temps en temps de pareilles négligences, lorsque la poste doit porter des paquets d'un royaume à un autre.

J'ai reçu avec bien de l'intérêt vos observations curieuses sur la tanpière du castor.

J'en profiterai certainement pour la première édition de mon Règne animal. *J'espérais que vous auriez travaillé pour notre prix sur le cerveau ; je vous avoue même qu'ayant lu avec un grand plaisir votre mémoire sur le développement de ce viscère, j'avais pensé spécialement à vous en proposant ce sujet à l'académie.* Nous ne perdrons du moins pas tout puisque vous allez faire graver une partie de vos observations. Je suis bien sensible à l'offre que vous me faites des dessins, et je prendrai peut-être la liberté d'en profiter lorsque je serai arrivé à cette partie de mon travail. Je suis encore un peu retardé par la nouvelle édition de mes fossiles dont je joins ici le prospectus. Si vous pouviez me procurer quelques matériaux pour l'enrichir, vous me rendriez un grand service.

Agréez, je vous prie, Monsieur, l'assurance de ma haute considération.

BARON G. CUVIER.

Every one may convince himself from this letter, that my work was in the possession of Baron Cuvier before the Academy had proposed, for the subject of its prize, the question on the structure of the brain, and that, consequently, I had not laboured to answer this question, as M. Serres endeavours to insinuate into the minds of his readers. One solitary truth is to be found in the passage quoted above, and taken from M. Serres' preface: "it will be undoubtedly recollected what sensation this report created among anatomists." Yes, the sensation which the report produced among the instructed anatomists of Germany was great indeed; but the unfavourable impression which it caused in our country was not to be compared to that produced by the no less known report on the work of M. Flourens, whose discoveries were disputed with justice by M. Rolando, and to the indignation which was shortly afterwards excited by the spoliation committed by Automarchi on the immortal Mascagni.

From these circumstances I will venture to make one observation, which appears to me deserving the attention of the Academy of Sciences at Paris. Can this illustrious society, which for nearly two centuries has been spreading light on the vast domain of science, hope still to preserve the reputation which it has acquired, if the members of its commission, instead of distinguishing themselves by profound knowledge and just criticisms, remain entire strangers to the progress of the sciences in neighbouring countries, and take on themselves to decide with partiality on the works of the learned, who are indeed the inhabitants of no one country in particular, but the citizens of the world at large.

TIEDEMANN.

PHYSIOLOGY.

The Effect of Compression on Poisoned Wounds.

In a paper lately read to the Academy of Medicine, Dr. Brouillard stated the fact that poisons even of the most active class do not produce death, until they have been absorbed into the system; and hence he argues, that by preventing absorption, you obviate the mischief. Dr. Barry applied the cupping-glass to poisoned wounds, and by hindering the circulation of the poison, prevented those phenomena from taking place, that would necessarily occur if absorption had been suffered to go on. Dr. Brouillard was induced to make some experiments, which were attended with complete success. He laid bare a portion of the cellular substance of a rabbit's thigh, and introduced therein three grains of strichnia; he then tied a ligature above the wounded part. Twenty-one minutes elapsed before the animal appeared to be affected by the poison; but, at the end of that time, it was convulsed, and sent forth strong cries. Dr. Brouillard strongly compressed the wound with his hand, and the symptoms ceased; nor did they return for 25 minutes, during which the compression was continued. In six minutes after the ligature and hand were removed, the convulsions were renewed. The doctor then alternately applied and removed the ligature, and each operation was attended exactly with the same results as before, respectively. The experiment was repeated in five instances with strichnia, and in two with prussic acid; and, in one case, the Doctor, by means of compression on the wound, kept the animal alive for nine hours. He lastly inserted a portion of the above poisons in animals of the same species, and in all cases the consequence was the immediate extinction of life.

On the use of Iron, as an antidote against Poisons belonging to the class of Metallic Salts. By Messrs. DUMAS and M. EDWARDS.

A variety of experiments have been made by these gentlemen, for the purpose of ascertaining the efficacy of iron in cases of poisoning by means of metallic salts. It is known that iron decomposes acetate of copper, and hitherto the experiments of the above gentlemen have been confined to the acetate, sulphate, and carbonate of copper, and the strong muriate of mercury. From twelve to thirty grains of acetate of copper, dissolved in water (sufficient in evincing circumstances to destroy the life of a dog in a few hours,) were introduced into the stomach of a dog, and afterwards they injected

about an ounce of iron filings suspended in gum water. The experiment was tried on several dogs, the liquids being in all cases introduced by an opening in the œsophagus, which was afterwards compressed so as to hinder vomiting. The iron was exhibited in the several instances at different intervals from the introduction of the poison. The animals all pretty well recovered, and survived from four to eight days, the death even then being occasioned entirely by the pressure of the ligature on the œsophagus. In one case, where the ligature was speedily removed, the dog recovered. As an antidote, or rather decomposer of acetate, sulphate, and carbonate of copper, iron was found invariably successful. In the case of the sulphate of copper, the iron was found to be rendered much more active by the addition of a little vinegar.

CHEMISTRY.

A new substance has been discovered by M. Balard, a young chemist of Montpellier, which he at first called *muride*, but which, at the suggestion of Thenard, Vauquelin, and Gay-Lussac, he afterwards changed to BROME from the Greek word *Βρωμος*, signifying a bad smell. This substance has been obtained from sea water by M. Balard, and was discovered by him during the manufacture of iodine.

Its principal characters are thus briefly described; it is liquid at the ordinary temperature of the atmosphere, and even at 18° below the zero of Reaumur. In mass, its colour is of a deep reddish brown; when broken, it appears just the colour of the red hyacinth. Its smell is very strong, and much resembles that of chlorine. Its density is about 3. It destroys colours in the same manner as chlorine, and dissolves in water, alcohol, and æther. M. Balard has combined it with a great number of simple bodies, and has obtained some very remarkable compounds. It is not so strong as chlorine, but is stronger than iodine, which is very singular, and renders it probable that it may ultimately prove to be only a compound of these two bodies. It appears to resemble chlorine rather more than the other. With hydrogen, it forms an *hydracide*, or hydrobromic acid; and with oxygen, it forms bromic acid, which, in its various combinations, has a great resemblance to the chlorates. With heat it decomposes, like chlorine, all the soluble alkaline oxides, and disengages the oxygen from them; with cold, it combines with the oxides, and forms *bromides*, easily decomposable by heat, and by the weakest acids. The weight of its atom is 9.328, taking oxygen as unity. The Academy of Sciences considers this discovery of M. Balard as a very important acquisition to chemistry.

A detailed account of the *brôme* and its combinations has been published in the *Annales de Chimié et de Physique* for August last.

THE COLLEGE OF PHYSICIANS.

To the Editor of THE LANCET.

SIR,—In your Number of this day, I observe a letter, signed "*A Constant Reader*," in which, alluding to Mr. Bennett's correspondence with the Court of Examiners of the College of Surgeons, he is pleased to indulge in a strain of invective against the Royal College of Physicians.

Now, as he appears to me to have *wilfully assumed* a *falsehood*, for the purpose of declaiming against that body; and as his statement is calculated to mislead the public, which, I am sure, must be foreign to your inclination, I beg leave to state, that there is *no by-law* by which a properly educated gentleman is prevented from becoming a *fellow* of the College of Physicians, even if he *has* practised as a *surgeon*, pro mercede.

It is true, that should he have ever exercised the art and mystery of an apothecary, or practised midwifery, for gain, the College will refuse to admit him as a Fellow, even if he be a graduate of Cambridge or Oxford.

But it is not true that such question as your correspondent has chosen to assume, are *ever* put to any individual who presents himself for admission. He can't have practised these branches of the profession, without the fact being known; and the questions therefore would be superfluous.

When a National College of Physic and Surgery shall have been established, with "A Constant Reader" at its head, the profession will *then*, no doubt, be on a very *different* footing!!

I have the honour to be, Sir,

Your very obedient servant,

A LICENTIATE OF THE COLLEGE OF PHYSICIANS.

London, Oct. 28, 1826.

THE LANCET.

London, Saturday, November 4, 1826.

The Principles of Surgery as they relate to Wounds, Ulcers, Fistulæ, Aneurisms, wounded Arteries, Fractures of the Limbs, Tumours, the Operations of Trepan and Lithotomy. Also of the duties of the Military and Hospital Surgeon. By JOHN BELL. A new Edition, with Commentaries, and a critical enquiry into the Practice of Surgery. By CHARLES BELL, Professor of Anatomy and Surgery to the Royal College of Surgeons in London, Surgeon of the Middlesex Hospital, &c. In 4 Vols. 8vo., with engravings and marginal illustrations. London, 1826. Tegg.

Mr. JOHN BELL'S Principles of Surgery have so long and so deservedly sustained the first rank in our libraries, and are so well appreciated by the profession in general, that it were almost superfluous to descant on their merits. There is something so delightfully animating and cheering in this writer's manner, so much force of genius in his criticisms of the opinions and practices of the older surgeons, such vigour of thought, plain straight forward reasoning, and happy sarcasm in contrasting the right with the wrong—teaching us what to avoid, and what to pursue, that his work may be fairly considered the most interesting, if not the most useful, that has ever appeared on the subject of surgery. It is a work well calculated to kindle that enthusiasm in the younger mind, without some portion of which, perhaps no one ever became truly great or deservedly eminent, in this or any other profession. It is a work which may make a man proud of his calling, and there can be no doubt that it has considerably influenced and directed the present generation of surgeons. To use his own language, when describing a perfect surgeon :—" His remarks are arranged, explained, illustrated and enforced with peculiar ardour. His perfect knowledge of the human body, brings all his experience into the most useful forms; his histories are plain and important; he dwells with judgment upon those points which are peculiarly difficult, and resolves them by continual reference to the structure and functions of the parts. The most ordinary facts become instructive when he relates them; at every turn, in every difficult question, we perceive his superior penetration, knowledge, decision, good conduct." —In fine he has done for surgery what Euler did for algebra,—produced a work as imperishable at the science itself. Mr. CHARLES BELL follows his brother with becoming humility.—Superior, without question, in anatomical knowledge, he yields the palm of surgery to his preceptor, and scarcely ever ventures to controvert his authority. Indeed there is something so palpable, undeviating, and rational, in the operative department of surgery, that it were difficult for a man of strong mind, and good education, like the author of the principles, to have fallen much into error, and, by consequence, to have left much to be altered, criticised, or rejected. Hence it will appear that the Editor's labours have been comparatively light—that he had merely to make the few additions which lapse of time, and the progress of surgery, rendered necessary, and his work was done. But we shall extract a part of the preface, which is drawn up with singular modesty, and proceed to notice the commentaries and notes of the Editor, for the benefit of the holders of the original edition, who are not likely to become purchasers of the present:

" It is much to be regretted," says Mr. C. Bell " that any thing should have limited the influence of Mr. J. Bell's works on the general profession; and there cannot be a doubt that the expensive mode of their publication, and the diffuse style of composition, have had this effect. It has been my object in republishing these volumes, to retain all the important practical matter, to preserve

also the admirable introductions, as well as the lively and ingenious illustrations. But in the original edition, the work was loaded with notes, containing long Latin quotations, and unnecessarily encumbered with excerpts from obsolete French works. These were often but a less perfect version of what was delivered in the text, and I have not hesitated to expunge them. I may be considered as less excusable in omitting certain portions of dissertations, which possessed all the peculiar merit of Mr. John Bell's writings, but which did not appear to me to be essential. I have long observed with regret, that the admirable lessons contained in these works, were to be got at with too much expense and labour, and that they were thus lost to the practising part of the profession. It was necessary to present them in a less voluminous form, and the value of the practical matter made it the more incumbent to omit some portions. With these exceptions, the reader will find the whole of Mr. John Bell's surgical works in these four volumes."

To us, the style of Mr. John Bell's works has ever appeared a great recommendation, and the editor's initials were certainly unnecessary to distinguish his terse composition, as he supposes it, from the "diffuse style" of his brother. This is joyous, animated, and triumphant, and outstrips the impatience of the reader; while the former is cold, dull, and phlegmatic, often incorrect, and withal not a whit less diffuse.*

Of the notes and commentaries of the editor, by far the greater portion are contained in the first volume; indeed the additions made to the others are not sufficiently important to require particular comment. To the first volume, then, we shall confine our attention, beginning at page 250, with Mr. John Bell's opinions "of the natural causes by which a hæmorrhage is spontaneously stopped" in the smaller arteries, which he observes is "neither from the retraction of the artery, nor the constriction of its fibres, nor the formation of clots, *but by the cellular substance which surrounds the artery, being injected with blood*," which blood coagulating, forms "a sufficient barrier to restrain the bleeding, till the parts inflame, and the artery is entirely stopped." Upon this Mr. Charles Bell has remarked, that "authors have shown more cunning in shirking the question, than ingenuity in explaining it." "Their little ways," he says, "of praising one another and going round about to omit the mention of his brother, have been apparent to him. They have been as a child who conceals itself by covering its eyes!" &c.; not perceiving that his brother's doctrine is at variance with itself, inasmuch as he states, that hæmorrhage is not arrested "by the formation of a clot, *but by the coagulation of the blood* in the interstitial cellular membrane!" What else this may be but "the formation of a clot," it may be difficult to determine.

Arteries opened by sharp instruments are well known to bleed freely, while such as are rudely torn by musket shots or machinery, scarcely bleed at all. The fact cannot be doubted, and is thus explained by the editor:

"The coats of the artery being alive, and in the full enjoyment of their functions, preserve the blood fluid. But the blood, deprived of that influence, immediately coagulates. The death of the coats of the artery, or the injury of the coats of the artery, are (is) attended with the coagulation of the blood within the mouth of the artery. This is the reason why a bruised, torn, or gunshot artery, does not bleed; it is the reason why, on cutting into mortified parts, there is no bleeding. If blood escapes into a cavity, it coagulates; if it escapes into the cellular membrane, it coagulates; if the coats of an artery give way, and the coats are supplied by a new formation out of the cellular membrane, the blood coagulates; and this is the reason why an aneurism is ascertained by the presence of a clot; for if the coats of an artery be dilated merely, there is no coagulum; but if any part of the sac be formed of cellular texture, condensed, there you find a clot."

Ergo, hæmorrhage is arrested "by the formation of a clot," contrary to the bro-

* In the following sentence of the preface, for example, all the words in parentheses are superfluous: "But (in) the original edition (the work) was loaded with notes, (containing) long Latin quotations, and (unnecessarily encumbered with) excerpts from obsolete French works," &c.

ther's hypothesis, in one place, and in strict keeping with it, in another. Motion is necessary to the fluidity, or, if Mr. Bell will have it, the life of the blood, and it is therefore no wonder that it should coagulate in dead tubes, or in the interstitial cellular membrane. Tie the femoral artery two inches below the profunda, and, unless the circulation be maintained by inosculations, the blood above the ligature will coagulate, although the artery be alive. In many cases of gangrene, the death of arteries is the effect, and not the cause, of the coagulation of the blood; since, as every surgeon knows, the coagulum often extends beyond the line which separates the dead part from the living. Motion is necessary to the perfection of muscles, and much more to the fluidity or life of the blood. Haller has observed, that little clots of globules may often be observed in the arteries when the circulation is languid, and that they disappear when its vigour is restored. Motion, then, rather than the stimulus of arterial coats, is necessary to the fluidity of the blood. When blood escapes into the cellular tissue, when it stagnates in an aneurismal sac, or impervious artery, it is no longer under the control of the heart, and coagulates. It cannot move, and not moving, ceases to live. Mr. Bell should be prepared to prove the converse of his proposition, that blood never coagulates in a living artery; but as that is impossible, his hypothesis is absurd.* Arteries cannot be dilated to any great extent, without rupturing their internal tunic. When "merely dilated," they cannot contain inert blood enough to balance or overcome the force of the heart's action, which keeps it in motion, fluid, and alive. When the internal tunic gives way, the capacity of the sac or pouch of the aneurism, and consequently the resistance to be overcome, is much increased, while the heart's action remains the same, equal to the natural calibre of the artery, and the natural column of blood, but to no more, and it cannot keep fluid what it cannot move; hence the coagulum. After these remarks, the fallacy of the following observations will be sufficiently obvious:—

"When the experiment of cutting or hurting the coats of the artery was made, by means of a small thread drawn tightly, and then immediately taken away, I anticipated that such a degree of injury of the coats of the artery would *influence the blood* contained, and that the coagulation of the blood, united to the coagulable lymph secreted from the inner surface of the injured vessel, would obliterate or fill up the tube. I knew that the same effect would have followed, if the coats of the artery had been checked or pinched by means of the forceps, and the wound closed. But to show that the injury committed was not of the nature supposed, I laid this coarse ligature in contact with the proper coats of the artery, without drawing it; *and the effect of this foreign body, lying* in contact with the living membrane, *was sufficient to produce that change which operated its effect on the blood*, caused its coagulation, and the rest was a natural consequence." p. 333.

A more superlative piece of nonsense never appeared in print. To "*check* and pinch the coats of an artery," or to lay a coarse ligature in contact with them, according to Mr. C. Bell, has the "*effect* of producing that *change* which operates *its effect on the blood*," causing it to coagulate; and all the rest of it, "as a natural consequence!" Out of Mr. Bell's own mouth will we judge him. At page 46 he says, in a note, "One of the practical deductions of Mr. Hunter was, that blood was the bond of union in re-united surfaces. It is not the case, that blood which escapes from ruptured vessels is absorbed, and a new secretion poured out before there is reunion," &c. Now if a coagulum of blood be an obstacle to the re-union of the lips of a wound, how can it possibly "operate its effect," so as

* "It is a well known fact," says Sir Astley Cooper, "that if a quantity of blood be included in a living vessel between two ligatures, at the distance of two or three inches from each other, the blood coagulates in two or three hours."—"In a dead bloodvessel, the blood coagulates just as it would in a vessel out of the body."—See his 12th Lecture.

to seal up and agglutinate the calibres of the bloodvessels? The fact is, that the "checking and pinching," or the foreign body, inflames the coats of the artery, coagulable lymph is deposited, the cylinder is obliterated, and the blood coagulates "as a natural consequence," not of the "checking and pinching," but of the sealing up of the artery. Such is the effect of Mr. Crampton's *prese artère* by which he surrounds the artery with a tape an eighth of an inch in breadth, and gently compresses it for three or four days. The artery is obstructed, inflames, and adheres, and the aneurism is cured. We saw Mr. Bell adopt the following expedient in a case of popliteal aneurism, but are not sure that any great advantage was gained by it. The wound suppurated:—

"——— tie a single knot twice, and, in drawing the ligature, let the noose sink so far into the coats of the artery, as to prevent its shifting by the pulsation; cut off the ends of the threads all but one, pass this single silk thread through a needle, and pierce the integuments from within outwards, at the distance of an inch from the edge of the incision; join the lips of the wound with great accuracy, and secure them with short pieces of adhesive plaster. The advantage gained by this operation, is the contact of the noose of the ligature with the coats of the artery; the perfect union of the lips of the wound, which is important to the state of the interior of the wound; the security against the sudden eruption of the blood by this early adhesion, and the opportunity provided by the thread for the separation of the ligature," p. 334.

The following method of compressing the anterior tibial artery, on the fore part of the foot, is ingenious, and well worth the attention of the reader.

"Having put down a compress of lint upon the artery," says the editor, "I took two bits of flat stick of eight inches in length, and an inch in breadth. One of these I put on the upper part across the foot, and another across the sole, and tied these ends together. The upper one pressed upon the linen compress, and the cord which tied the sticks together being twisted, graduated the pressure. In this manner the circulation of the foot was not impeded, and the compression of the wounded artery was complete."

At page 368, the editor very properly observes, that it is dangerous to trust to compression of the larger arteries *only* in amputations. However firmly the femoral artery, for instance, may be compressed, the vessels of the perineum and hip, and thyroid hole, will maintain the circulation; "there will be a full tide of blood, and all the consequences, from an unrestrained femoral artery." Of the subclavian artery Mr. Bell observes:—

"The freedom with which the blood returns by the inosculating arteries of the shoulder, was well illustrated by a case which occurred to Mr. Smith, surgeon of the Leeds Hospital. A girl had her arm torn off near the shoulder by machinery. There was no bleeding, nor could the trunk of the artery be seen. As the arm had been almost fairly amputated by the machine, it was unnecessary to do more than make the edges of the wound even, and bring them together. As the axillary artery had not been tied, the patient was carefully watched. In the course of a few days hæmorrhage did come on, and Mr. Smith very properly tied the artery just below the clavicle. The bleeding from the stump immediately stopped, and every thing went on well for several days. The stump became clean, and was granulating, when a second violent hæmorrhage took place from it. Mr. Smith did not reach the hospital till the patient had lost a considerable quantity of blood. He immediately tore open the stump, which was already partly united, and now he saw the blood issuing from the main artery. He secured it, but the patient sunk next day. On dissection, and by injecting the vessels, it was shown that the artery, where it had been tied below the clavicle, was obliterated, and that the blood had passed round by the supra-scapular branch of the inferior thyroid, from the portion of the subclavian artery above the ligature, into the part below."

In amputating the arm at the shoulder-joint, it is often difficult to restrain the hæmorrhage, by compressing the subclavian artery; so that we fully concur with Mr. Bell, in recommending those who may undertake the operation, to deal with the artery as if it were open, and to operate with "that rapidity and decision, which can alone ensure the patient's safety."

The work is turned off in a very creditable manner, and will, doubtless, be duly pa-

tronised; but the additions of the editor are extremely scanty, and the critical enquiry into the practice of surgery, announced in the title page, appears to have been entirely omitted; at least, we do not find it in the copy before us.

PROPOSAL TO PUBLISH AN ANNUAL PHARMACOPŒIA BRITANNICA.

We have just received the following letter, which we are requested to insert; our doing so, however, is not to be construed into an approval of its contents. If pharmacopœias be of any use, a national pharmacopœia must be better than three; but the plan of bringing out a new one annually is more than the progress of pharmacology requires, and would impose a heavy annual tax upon the general practitioner.

A supplement might be annually printed, containing all the improvements made in the year, which might be sold at a low price, and every ten years the additional matter might be embodied in a new edition. In this way the National Pharmacopœia would keep pace with the knowledge of the times, and be productive of some good, by preventing the numerous mistakes which now happen in consequence of certain medicines being compounded after different formulæ. But the fact is, that very little attention is at present paid to pharmacopœias, on account of the slovenly and unscientific manner in which they have been got up, and of the long interval allowed to elapse between their appearance; for, as Dr. Duncan has acknowledged, "several important medicines have not had a place in the pharmacopœia of any of the three colleges for many years after they have been in common use with almost every intelligent practitioner."

Instead of adopting an alteration of weights for pharmacy, as proposed in this letter, it would be more advisable to wait a little, until the Government shall ordain the decimal proportions of weights and measures to be generally used, which we anticipate so see done in a few years.

This is our opinion respecting the pharmacopœia and the weights, which appear to us the only feasible, or indeed rational parts of the letter.

A Letter to the Royal Colleges of Physicians of London, of Dublin, and of Edinburgh, from Andrew Duncan, Sen. M. D. and Prof., first Physician to the King for Scotland, Father of the Royal College of Physicians of Edinburgh, &c., respecting a proposal for the improvement of medicine, by publishing annually, under the authority of these three Royal Colleges, a Pharmacopœia Britannica.

Non fasces non purpuram, non exstructas in altum divitias, non ingenium artibus atque scientiis utcunque ornatum et imbutum, sed animum communi utilitate inservientem dignitas sequitur.

NICHOLS, *Oratio Harveiana.*

Gentlemen,—I need not tell you, that the Colleges of Physicians of London, of Dublin, and of Edinburgh, established at an early period by Royal Charters, have always been considered as the councils of health for the respective kingdoms to which they belong. In this capacity, they have published, in an improved form, when they thought it necessary, pharmacopœias regulating the composition of medicines, each for the kingdom over which their jurisdiction extended. But England, Ireland and Scotland are now so intimately connected, that no one can possibly be ignorant of the many inconveniences which must arise from three different pharmacopœias for regulating the practice of apothecaries in the composition of medicines in different parts of the British empire. The benefits that would retult from one Pharmacopœia Britannica, regulating the practice of apothecaries over the whole, are too obvious to require being mentioned. On that subject, it is, I think, impossible there can be two opinions.

A Pharmacopœia Britannica could only indeed be obtained by a solemn act of the Legislature. But if the three Royal Colleges were to unite in applying for such an act, there can be little doubt that it would be obtained. That act might be so framed, as to be productive of many other advantages to the rational and intelligent physician, in employing his endeavours in the cure of diseases. Among other particulars, it might be so framed as to produce a complete and entire separation between the

honest and intelligent apothecary and the daring and impudent empiric. The sale of pharmacopœia medicines might be entirely confined and secured to the former; while the latter might still be allowed freely to employ all his art in extending the sale of his infallible nostrums at any other shop he may incline, excepting the shops of those regularly licensed by Government to sell pharmacopœia medicines. From this separation by legal authority, there cannot be a doubt that much real benefit would be obtained.

But, besides this, such an Act of Parliament might introduce into the shop of the regularly licensed apothecary, many important improvements. Among others, it might lead to an useful reformation in weights used in the shops of apothecaries, and to a more speedy introduction into these shops of every article which may be hereafter discovered to be really useful in the cure of disease.

The weights hitherto employed, grains, scruples, drachms, ounces, and pounds, are attended with many inconveniences. On this subject, without adopting the new French weights, I would yet imitate them, by adopting decimals. I would continue the present grain as the basis; and I would adopt as multiples of it decigrains, centigrains, and millegrains. Of these millegrains, ten should form the libe*. The libe, again, might be increased in a decimated progression, as well as the grain, its multiple being a decilibe, a centilibe, and a millelibe. From this standard for weight, it cannot, I think, be doubted, that many important advantages would arise, both to the physician and to the apothecary.

Another obvious benefit that might be obtained by an Act of Parliament, is an annual improvement of the Pharmacopœia Britannica, corrected according to the progressive discoveries made in the practice of medicine. It has hitherto been the uniform practice of all the three Royal Colleges, to improve their Pharmacopœias, not *gradatim*, but *per saltum*, as it may be termed. They have published new editions only at the end of ten, twelve, or sometimes even more than twenty years. By this means, the alterations have necessarily been very considerable, and have often led to an almost total change of language, both in prescription and in the shops of the apothecaries. Several important medicines have not had a place in the Pharmacopœia of any of the three Colleges for many years after they have been in common use with almost every intelligent practitioner.

These great inconveniences might be effectually avoided by an annual standard Pharmacopœia, with an imprimatur from all the three Royal Colleges, being printed every year at the expense of Government. This new impression, conjoined with a licence to keep an apothecary's shop, might be distributed by the Stamp-office; each individual who shall receive a licence for the year, paying at the rate of two guineas annually, for a stamped licence and a copy of the Pharmacopœia. From the sum thus collected by the Distributor of Stamps, an adequate allowance might be made to an intelligent physician, appointed by Government, to prepare the annual Pharmacopœia. From the money thus collected, the full expence of printing and distributing this annual Pharmacopœia might be defrayed, and even some addition made to the general revenue, as well as from the licences for the sale of tea, wine, or other articles.

Of such an act of the legislature, it may naturally be concluded, that very different opinions will be formed; and I am fully sensible that it is liable to many objections. But the evils that might be apprehended from it are, in my opinion, of very little weight when put in the scale against the numerous advantages which would result from it. And to submit it more fully to the serious consideration of the three Colleges, I here subjoin what I think might be the heads of a Bill which might be proposed by the three Royal Colleges of Physicians for the sanction of the British Parliament. My conduct in suggesting such a Bill will, I doubt not, be blamed by many. But I can at least answer for my intentions. They are honest, rational, and even merit approbation. And, I am persuaded, I need not request that each of you will bestow upon them a serious consideration.

I have the honour to be,
Your most obedient servant,

ANDREW DUNCAN, sen. æt. 82.

Edinburgh, Oct. 1, 1826."

Proposed Heads of a Bill for regulating the Practice of Pharmacy in the British Empire.

Be it enacted,

That, in place of three Pharmacopœias, which are at present published by authority of the Royal Colleges of Physicians of London, of Dublin, and of Edinburgh, for regulating the practice of Pharmacy in England, Ireland, and Scotland, there shall be but one Pharmacopœia, under the title of THE PHARMACOPŒIA BRITANNICA, for regulating the

* A term derived from the Latin word *libra*, though much heavier than the present pound of apothecaries' weight.

practice of Pharmacy over the whole of the British Empire.

That of this Pharmacopœia Britannica, a corrected and improved edition shall be published on or before the 1st of January every year, to be the standard for every apothecary during the course of that year.

That this corrected edition shall be prepared by a Physician appointed by the King, under the title of Royal Pharmacopolist.

That, prior to its publication, it shall receive an *imprimatur* from the Presidents of the Royal Colleges of Physicians of London, of Dublin, and of Edinburgh.

That no shops shall be permitted to sell Pharmacopœia medicines, excepting those which are kept by apothecaries who have obtained a licence from Government for that special purpose.

That no apothecary licensed by Government to vend Pharmacopœia medicines, shall keep in his shop, or sell any other articles whatever but those which are introduced into the Pharmacopœia Britannica.

That the grain weight at present in use in the shops of apothecaries, shall still continue to be the basis of the weights used by apothecaries in the composition and sale of medicines; but that in place of the other denominations which are at present in use, the larger weights shall be increased in decimal progression, under the denominations of decigrains, centigrains, and millegrains; of libes, decilibes, centilibes, and millelibes; every superior denomination consisting of ten of the inferior.

That, both in the composition and sale of medicines, weight only shall be employed, and that recourse shall never be had to measure in the shops of the apothecaries."

It is very evident, from a slight glance at this document, that Dr. Andrew Duncan, senior, is not acquainted with the present condition of the profession in this country; he has fallen into error in common with many of his countrymen, in supposing that there still exists such a tribe of beings as were formerly denominated *apothecaries*; he talks of "honest and intelligent apothecaries," but the race in England is extinct. As to his "Royal Pharmacopolist," and his "two guinea stamped licence," he ought to know that no benefit can accrue to any science from its being put under the protection of the Stamp Office. "The Father of the Royal College of Physicians of Edinburgh," has yet to learn the principal of medical legislation, and unless he separates the Pharmacopœia Britannica from the absurd proposals with which he has coupled it, he will find that his whole scheme will be rendered abortive.

We feel it but justice to explain so much of an article which appeared in the 156th Number of The Lancet, as relates to the conduct of the late Censors of the College of Physicians, as Trustees *ex officiis* of the Hunterian Museum, which, prima facie, and in the absence of the "terms and conditions," alluded to in our last, appeared to furnish matter for indignant comment, inasmuch as the exclusion of the Licentiates of the College of Physicians from the Museum of Hunter, seemed to emanate from them. But in this we were mistaken; and we take this opportunity of setting ourselves right with the Censors and the public, more especially as the Editors of the Medico-chirurgical and Yellow Journals, affecting private information, and God knows what besides, have copied our errors, and railed at the Trustees in good set terms of fustian and bombast, without, in truth, knowing aught of the matter. In our own vindication we have only to observe, that the obnoxious regulation was put forward, ostensibly, as the act of the Trustees—as *their* resolution, and not as it should have been, as a mere enforcement of a primordinate law which they had no power to abrogate or alter. So much for ourselves. As to Dr. Macleod, he talks of the "*officious* interference of the censors," as if it were "officious," to interfere, to do what Parliament designed them, and what they had sworn by the Evangelists to perform!

It is more handsome, according to Dr. Macleod to wink at failings, than to blaze them abroad; better to bask in the sunshine of hole and corner favour, than to drudge in the laboratory of truth; more honest to publish "fair" and "successful cases," than to put men to "demoniacal torture," by expos-

ing their failures and want of dexterity,—and argues greater "taste and judgment," to neglect the most important and sacred duties, than scrupulously to perform them. "I never was any where," says the man in the play, "but all manner of folks loved me most dearly;" and the hospital gentry have shown such extraordinary affection for poor Dr. Macleod, that we will be sworn he has exhibited all the agreeable, tractable, and trust-worthy qualities, which gained so much favour for his prototype. Indeed, he bids fair to make more friends than the obsequious and obliging Johnson, who has "sentiments of respect and esteem," or some such a compliment, for every one that falls in his way. In his last Number, this worthy talks of the "march of intellect," and of the "disgraced title of Licentiate," which he, nevertheless, reckons the first of his "blushing honours," and so places it on the cover of his Review!

"We have *reason to believe*," he says, "that the Board of Curators of the Hunterian Museum mean to pay no attention to the *liberal* recommendation of the Trustees, not to permit the visitations of English Licentiates, or Scottish graduates, without a permit from the London Colleges;" but as we also have reason to believe, and have shown, that such "liberal recommendation" was never made, and that neither the Board of Curators, nor the Trustees, have power to alter the laws which parliament gave them, there is an end of the matter. Drs. Johnson and Macleod have suffered much mortification, God knows, for adopting the error which we unfortunately promulgated; and the latter has received a severe lashing from "A friend of the late Censors," in our last LANCET, so that it were unnecessary to add more to their ignominy, or their pain.

We set down the following to the phases of the moon, not supposing that any one in his senses, who has received the *summi honores* of the northern fair one, could have inflicted the deadly wound on her reputation:—

"It is very evident," says the sage, "that medical men in England, who have sons bringing up with a view of practising as physicians, will, very generally, push them through that channel which leads to a Fellowship of the London College. If they do not, they will be *guilty of a crime much worse than that of infanticide!*"

This is pretty well for a man who has *ground*, and graduated beyond the Tweed; But he has something better. If men cannot get an Oxford or a Cambridge diploma, he says, let them get "a good surgical education, in order that they may earn their bread *respectably and independently* as surgeons; but let them beware of the disgraced title of Licentiate!" Who would have dreamed that a Scotch diploma and the license of the College, are incompatible with respectability and independence; or that Dr. James Johnson, the holder of both, would be the first to make the discovery! We must allow him to know something of the matter, as far as it relates to himself; but we protest that it argues very bad taste to blazon it forth to the public. A man can only be disgraced by his own acts, and Dr. James Johnson best knows how far he is culpable, but must not be allowed to apply his sweeping epithets to the great and respectable body of the fraternity to which he happens, so much against his will, to belong.

SIR ASTLEY COOPER, at the particular request of the KING, has lately visited the DUKE of YORK, and on the first occasion his Majesty was pleased to meet the Honourable Baronet at the Royal Duke's residence; the interview lasted a considerable time. The DUKE of YORK's *disease* is *general anasarca*, a form of *dropsy* the most difficult to remove. SIR ASTLEY prescribed a combination of *squill root* and *blue pill*, which we understand has been taken with some benefit.

In our last Number we inserted the accounts of the London Ophthalmic Infirmary, as published in the Annual Reports, up to March 1808, and we shall now place before our readers the various items of expenditure during two other years, viz. 1823 and 1824:—

1823.	£	s.	d.
By Butcher, Baker, and Coal Merchant	102	14	6
By Brewer, Chandler, and Cheesemonger	23	4	0
By Medicines, Drugs, and Leeches	120	4	6
By Surgical Instruments and Optical Glasses	13	3	6
Bedding and Furniture	9	15	8
By Carpenter, Mason, Plumber, Glazier, and Smith	83	8	8
By part of last Anniversary Expenses	6	6	0
By Advertising, Printing, Stationary, Stamps, and Postage	91	18	6
By Insurance against Fire and Gas Lights	22	6	0
By Disbursements in House-keeping	56	12	9
By Wages and Gratuities	217	13	2
By Collector for Commission, and Extra Service	34	7	6
	861	14	9

1824.	£	s.	d.
To Butcher, Baker, and Coal Merchant	144	14	6
To Brewer, Chandler, and Cheesemonger	25	4	8
To Medicines and Drugs	116	9	0
To Surgical Instruments and Optical Glasses	19	7	0
To Carpenter, Mason, Plumber, and Glazier	2	6	4
To Advertising, Printing, Stationary, and Stamps	153	0	9
To Insurance against Fire	15	0	0
To Taxes and New River Water	22	9	8
To past Anniversary Expenses, 1823	19	5	6
To House-keeping Disbursements	57	8	3
To Wages and Gratuities	214	16	8
To Collector for Commission and Extra Service	36	5	4
	826	7	8

These statements, taken promiscuously from the various annual "Reports" now lying before us, are sufficient data whereon to ground the comments which we intend to offer respecting the financial and puffing departments of this pretended *Charity*. In February 1810, the Institution was deprived of the services of Mr. Saunders, its projector, that Gentleman having departed this life on the 9th of the above month; he was succeeded by Mr. Travers. Up to this period, only two pupils had been permitted to *witness the practice of the Infirmary*; and although Mr. Saunders had boasted for some years previous to his death of having operated in a *peculiar* manner on very young infants who had congenital cataract, yet, up to the time of his decease, he had not communicated the particulars of his method of operating to the medical profession of his country; but more of this anon. Shortly after the election of Mr. Travers, a second surgeon was appointed in the person of Mr. Lawrence, and in 1814! students were admitted to witness the practice of the Infirmary at the following charges—five guineas, three months' attendance; eight guineas, six months; and ten guineas, twelve months. About five years since, the business of this Institution was removed from Charter House Square to Moorfields, where a building was erected, known by the name of the London Ophthalmic Infirmary, at a cost of nearly *ten thousand pounds*, which, we fear, was rather unwittingly subscribed by a too credulous public.

It is, we conceive, unnecessary to enter at greater length into the minute history of this Institution; we shall now, therefore, direct our attention to certain transactions connected with its government, which, when explained, cannot fail to convey to the minds of the Governors, a perfect knowledge of the deceptions which have been practised, and of the true objects of certain busy persons who have, unfortunately for the Establishment and the public, taken a too active part in its government. Let us, therefore, begin with the beginning, and proceed to inquire how far the state-

ments contained in the projector's prospectus have been verified; how far the eulogiums so unsparingly bestowed upon Mr. SAUNDERS in the annual reports were merited by that individual, and whether the anticipations of the benevolent Governors, who subscribed towards the establishment of this Infirmary, have been fully or even in part realized. An attentive perusal of the prospectus at once conveys the idea, that one of its chief objects was to institute a SCHOOL for the study of Ophthalmic Surgery. The following paragraph surely warrants this conclusion.

"The structure of the eye and the ear is so delicate and complex, and their irritability under injury so extreme, that they cannot easily be treated but by those who make them the objects of peculiar study and attention. The acknowledged difficulty in the treatment of the diseases to which they are liable, has induced a few to separate themselves from the practice of professional duties, and to devote themselves to the exercise of this branch alone; a fact which sufficiently establishes the expediency of making them the objects of a specific institution."

Thus the governors were evidently betrayed into a belief, that it was the intention of the projector to establish a school for the investigation and study of those diseases which are peculiar to the eye and the ear; but was it the intention that it should become an arena accessible to the public for those purposes? Of motives it is at all times difficult to speak with any degree of certainty; of actions, however tortuous their course, we can comment without fear of misrepresentation; here we have data which we can clearly observe, and the movements of individuals are as manifest to others as to ourselves. It is the same with respect to the tendency of actions; but in the attempt to investigate, to analyse motives, our labours often become bewildered in the intricacies of hypocrisy and intrigue. In the present case, our exertions are of a lighter kind, because the projector and his supporters have furnished us with such materials, that there can be no difficulty in producing the instruments of their damnation from their own hands. *The London Ophthalmic Infirmary* WAS NOT INTENDED FOR A SCIENTIFIC SURGICAL SCHOOL, its doors having been closed against those who were desirous to become pupils there until the fourteenth of June, one thousand eight hundred and fourteen; and from its establishment in March, 1805, until February, 1810, at which period the projector died, there was practised within its walls an operation which it was *pretended* was one of a peculiar character, and, as such, sedulously kept from the knowledge of the surgical profession. It is true, that during this time, *two persons*, Sir William Adams, and Mr. Stevenson, the private friends of Mr. Saunders, were permitted, as a matter of mighty favour, to become acquainted with the legerdemain tricks of the secret operator; and these constituted the entire number of scholars during a period not only of five, but of NINE YEARS, as the doors of the Institution were not thrown open for the admission of pupils, (and then at a charge of five or ten guineas each,) until the year one thousand eight hundred and fourteen, being nine years after it was founded; yet in the annual reports, penned, we are informed, by Dr. FARRE, it appears that the surgeon was thanked by the Governors for completely humbugging them; that he was held up to the public as a "benefactor to the human race," and "one of the brightest ornaments of the medical profession:" indeed, so extraordinary were his merits, that Messrs. Farre, Battley, and Co., expended upwards of sixty pounds in advertising them, of which we may say, that a piece of more gross or palpable quackery was never practised in this quacking metropolis. It is with regret, deep regret, that we write one syllable which can reflect discredit on thecharacter of the dead, but we hold our duty to the living to be paramount to every other consideration; for should such

nefarious practices be tolerated, which have been sanctioned by the conductors of this institution, the medical profession would soon sink into irretrievable disrepute, and the names of surgeons and physicians would form as many blots on the pages of its history.

The abettors of the quackery which obtained at this Infirmary, are, in every respect, as culpable as was the quack himself; he was upheld by them, supported by them, and even now they are exercising the full measure of their nefarious traffic. The tale which we now unfold, will, we hope, convince the Governors that they have been most shamefully deluded; that their alms have been most infamously bestowed, and their benevolent intentions for the greater part, entirely frustrated. Let them inquire of Dr. FARRE, and his colleague the Druggist, why pupils were not admitted into the Infirmary until nine years after its establishment. Dr. FARRE, the coadjutor and biographer of Mr. SAUNDERS, speaks of that gentleman in the most glowing terms of eulogy; and in reply to some individuals who had spoken rather reprehensively of the "Hole and Corner" manner in which the surgical business of the Infirmary had been conducted, the Doctor thus valliantly writes: "Finally, if his enemies would search into his very bosom, his private correspondence is now open to their examination." Now it happens that we possess a portion of Mr. Saunders's *private* correspondence, and as it furnishes indisputable testimony of the real motives of the writer for concealing his operation from the profession, we will, as the Doctor seems to be so ignorant on this point, enlighten his understanding, and gratify him with a sight of it; indeed, it is so argumentative, so conclusive, and gives such a peculiar impress to the memory of Mr. SAUNDERS, to the scientific and liberal characters of his colleagues in humbug, puffing and secrecy, that we will here insert it, without adding another word of our own, as we should be sorry to lessen the effect which it ought to produce on the mind of the professional reader:—

London, 2d Jan. 1809.

MY DEAR SIR,

****** YOU DISTRESS ME MUCH BY ASKING FOR MY MODE OF OPERATING ON CHILDREN BORN BLIND WITH CATARACT, and I hope, *when I decline it*, you will consider me as acting contrary to my natural temper and disposition. You must be acquainted with my situation here, with two opponents engrossing the public attention. From the free communication between medical men, if I had made many acquainted with it, MY OPPONENTS WOULD HAVE KNOWN IT BEFORE NOW, AND BEEN ACTING UPON IT, so that I should have lost the credit which I have now gained over them, by doing what they decline; only two people, of whom Mr. O. is one, are acquainted with my notions, and these are most intimate friends, who have been in the closest contact with me, and from whom I conceal nothing. Mr. COOPER, WHO HAS REPEATEDLY ASKED ME, DOES NOT KNOW IT. After this I trust you will excuse me, *for I should give just cause of offence to him and many other friends who have asked me in vain*, but have been satisfied with my reasons, considering the predicament in which I stand." * * *

Yours, faithfully,

J. SAUNDERS.

We shall return to this subject again and again.

ON THE ART OF BAKING BREAD.

THE popular turn of late years given to the study of chemistry has led to many valuable discoveries in the arts, and has mainly contributed to support that pre-eminence which the manufacturers of this country hold over those of all others. Much has been done by the chemists of Paris, and by the Polytechnic School of Vienna, to excite a general taste among the people of these countries for this interesting and useful science; but thus far the population of this kingdom has outstripped that of any other portion of the globe in a practical acquaintance with this branch of physics. It is impossible to select any class of society to

which chemistry can be said to be uninteresting; but to none does it offer so many inducements to study its laws and operations as to medical men. Considered abstractedly from all pharmaceutical processes, it presents a wide field of investigation to their attention, and may indeed be termed the life of unorganised nature. Of how much importance in the removal of the numerous ailments of man is a knowledge of chemistry, for by it the supplies of nutriment may be directed, both in regard to quality and form, with a precision exactly suited to the condition of the body, whether in the healthy or diseased state. Every man practising medicine should know, not only how to select nutritious from innutritious aliment, but he should also know why he does so; for without such knowledge his acquaintance with dietetics must be very limited and empirical. As an article of diet, what material holds a more conspicuous place than BREAD? it is the chief food of infancy; it forms a principal ingredient in the diet of manhood; and, in the lower classes of society, is at all periods the main support of life.

Now if it becomes us to be better acquainted with the preparations of any one article of diet than another, it is certainly with bread. Few chemical processes concern the health and comfort of every individual more directly and immediately than the art of making good bread; and yet there is, perhaps, no one process with the rationale of which the community is less familiar. In the *Annals of Philosophy* of September last, Dr. COLQUHOUN has published a very ingenious essay on this subject; he has considered it very scientifically, it is true, but the principal fault we have to find with it is, that having assumed too little, he has explained every phenomenon connected with the process de novo, and consequently extended his essay over too many pages. We shall therefore endeavour to give an abridgment of the paper without interrupting the narration, or omitting any important fact that may be intimately connected with the process.

Baked bread, simply considered, may be described as being a substance formed by mixing a portion of the seeds of any of the cereal grasses with a little water, and then cooking the whole, by means of fire, into a solid, consistent state. This may be regarded as a step in the art of bread-baking of more difficulty in itself, and of greater importance to mankind, than any thing that subsequent improvement has supplied; for in all the intricacies and refinements of our modern cooking of bread, there can surely be found nothing to compare with that which first taught man to use a great proportion of his food in a manner peculiar to himself, and raised him above the practice of devouring it as raw grain, in common with the lower animal. What may be regarded as the second step, the reducing of the grain to powder before applying to it the moisture which should form the solid cake after the application of heat, seems, perhaps, of more natural and easy suggestion than the others; and accordingly we find, at this day, few nations, who bake their bread at all, who do not use for the purpose ground grain. But before it contained all the rudiments of what has now been gradually perfected into the modern system, something further was necessary, and this latter improvement seems to savour more of refinement and civilisation in its introduction and regular use, although it is of too old a date to have left any tradition of its origin. It consists in mixing with the bread a light gaseous body, which is almost invariably of the same kind as that which gives the foam to ale and the sparkle to champaigne. This gas, when duly infused into the dough, gives us, after baking and cooling, instead of a heavy and hard, or tough, dull nutriment, a light, porous, elastic, diaphanous food, which is at once more agreeable to the palate and easier of digestion, and more conducive to health. A common sea biscuit is no bad specimen of the former kind of bread, while a good, modern, plain wheat loaf is a fair example of the latter. In addition to which, it is well to observe, that in well made bread the vesicules produced by the disengagement of the gas, are regularly arranged in a sort of stratification of layers one above another, all perpendicular to the crust of the bread. This is called, by the bakers, *piled* bread; and they regard this appearance as the surest test of the success of their batch. These distinctions are sufficiently decisive, and serve to show the great advantages derived from the introduction of that part of the process of baking, which consists in mingling with the bread a considerable volume of what

must be regarded as a foreign and innutricious body. The increased facility of digestion possessed by well piled bread, may be seen from the circumstance, that if a portion of it, after having been well-baked and thoroughly cooled, be pressed between the fingers, it will crumble readily into powder; and if a piece of such a loaf be placed in hot water, it immediately softens, swells out considerably, disintegrates, and admits of being easily diffused through the liquid. But, if a bit of unpiled bread be similarly squeezed between the fingers, it remains a solid cohesive mass; and when put into hot water, never softens further than to become a permanently tough mass of dough.

The various modes which have been resorted to for the purpose of introducing the gaseous principle into bread, form almost the whole matter of interesting research which is connected with the modern art of baking; and the examination of the use and operation of the gaseous principle, thus artificially introduced into bread for the purpose of rendering it light and elastic, forms the only curious chemical investigation connected with the art, and is therefore made the principal subject of Dr. Colquhoun's essay. Previously, however, to describing the best method of duly gasifying the bread by panary fermentation, it will be better, for the sake of perspicuity, to state shortly the mechanical history of the ordinary process of baking.

Details of the Mechanical Process commonly employed in the Art of baking Bread.

The spontaneous decomposition of a piece of wheat dough, always generates within the mass a quantity of carbonic acid gas; and it is the fermentation of this gas, which is the baker's object in exciting fermentation. The modes employed may be, therefore, considered comparatively good, in proportion as they more perfectly and rapidly produce the internal gas. Perhaps the most simple process for effecting this, is to place a portion of common dough apart in a warm situation, when, if allowed to remain a sufficient length of time, it will pass spontaneously into a state of decomposition, which will generate carbonic gas within it, and give the bread baked from it, lightness and vesicularity. Such process, however, is tedious, and the bread acquires a slight acescence or putrescence, which, if existing in excess, may prove unwholesome. But the process of decomposition will be found to be greatly accelerated in any recent mass of fresh dough, by the addition of a small portion of old dough, already in a state of strong fermentation. When this is done, the mass is said to be *leavened*; the dough thus added, while under fermentation, being denominated *leaven*. This method is discontinued by the modern baker, for there is a substance which he has discovered to possess the property of exciting fermentation in dough with a still greater rapidity, namely, *yeast*, or the frothy scum which is thrown up to the surface of a brewer's vat, soon after the saccharine infusion has passed into a state of active fermentation. Of this yeast, which is a very impure substance, chemists are not yet assured what constituent it is that spreads decomposition through the dough, although it seems to be effected by its glutinous, which has itself already begun to pass into a state of decomposition.

When the baker proceeds to the preparation of dough by means of the yeast fermentation, he at first takes generally a portion only, but sometimes the whole of the water, which it is his intention to employ in making the required quantity of dough. In this water, which varies in temperature from 60° to 100°, according to the atmospheric temperature, there is dissolved a certain portion of salt, the quantity of which is always less than that finally required in order to communicate the necessary flavour to the bread: yeast is now mixed with the water, and then a portion of flour is added, which is always less than the quantity to be employed in forming the finished dough. The mixture is then covered up and set by in a warm situation, and within an hour signs of commencing decomposition make their appearance.* The sponge begins to heave up, in consequence of the generation of carbonic acid gas. If the sponge be of a very liquid consistence, large air bubbles soon force their way to the surface and break; but when the sponge possesses the consistence of thin dough, it confines this gaseous substance within it, until it dilates equally and progressively to nearly double its original volume, when, no longer capable of containing the confined air, it bursts and subsides. This process of rising and falling alternately, might be actively carried on for twenty-four hours, but experience has taught the baker that full scope must not be given to the energy of the fermentative principle. He generally interferes after the second or third dropping of the sponge, and were he to omit this, the bread formed from his dough

* The substance thus set apart is termed by the bakers, the *sponge*; its formation and spontaneous decomposition is termed *setting* the sponge; and according to the relation which the amount of water in the sponge bears to the whole quantity to be used in the dough, it is called *quarter*, *half*, or *whole sponge*.

would invariably prove sour to the taste and to the smell. He therefore at this period adds to the sponge, the flour and water and salt which may be necessary to form the dough of the required consistence and size, and next incorporates all these materials with the sponge, by a long and laborious course of kneading. When this process has been continued until the fermenting and the newly added flour have been intimately blended together, and until the glutinous particles of the flour are wrought to such a union and consistence that the dough, now tough and elastic, will receive the smart pressure of the hand without adhering to it, the kneading is for a while suspended. The dough is abandoned to itself for a few hours, during which time it continues in a state of active fermentation throughout its whole mass. After the lapse of this time, it is subjected to a second but much less laborious kneading, the object of which is to distribute the gas within it as equally as possible throughout its entire substance, so that no part of it may have a deficiency or excess. After this kneading, the dough is weighed out into the portions requisite to form the kinds of bread desired, shaped into loaves, and once more set aside for an hour or two in a warm situation. The continuance of the fermentation soon generates a sufficient quantity of fresh carbonic acid gas within them to expand each mass to about double its former volume. They are now considered fit for the fire, and are committed to the oven; but when they are taken out, they are found to have acquired twice as large a size as when they were put in. It should be remarked that the generation of the due quantity of elastic fluid within the dough, has been found absolutely necessary to be complete *before* placing it in the oven; because as soon as the dough is there introduced, the process of fermentation is checked, and it is only the previously contained air, which expanded by heat throughout all the parts of each loaf, swells out its whole volume, and gives it the piled and vesicular appearance. Thus the well made loaf is composed of an infinite number of cellules, each of which is filled with carbonic acid gas, and seems lined with or composed of a glutinous membrane; and it is this which communicates the light, elastic, and porous texture to the bread. The difference between the bread made in London and other large towns, and that made by unskilful country housewives, is in this respect very striking; the bread made by the latter being frequently full of large holes, from excessive disengagement of gas, and sometimes altogether inelastic, or as the domestic phrase is, *heavy bread*.

This is the brief history of the ordinary mechanical process pursued by the bakers, and the *chemical* investigation of the nature and principle of the fermentative process, as here exhibited, possesses considerable interest, and has at various times engaged the attention of chemists.

1. *Of the Panary Fermentation.*

There are three principal constituents of all wheaten flour; starch, which exists in the largest proportion; glutin, and a saccharine principle. About thirty years ago, when the ideas of chemists respecting the elementary constitution of organised substances were less precise than at present, the difficulty of assigning to fermentation in dough a place under any of the three usual classes of the vinous, acetous, and putrefactive fermentation, led to the conception that it was a species of decomposition entirely *sui generis*. It was accordingly denominated *panary*, and held to consist in the simultaneous decomposition and mutual reaction of all the constituents of the flour. Subsequently, however, the action of fermentation has been limited, at one time, to the glutinous ingredient, as by Messrs. Aikin, in their excellent Dictionary of Chemistry;* and at another time, to the starch; but of late the prevailing opinion has been, that the only principal subject of its action is the saccharine constituents. Dr. Colquhoun has embraced the latter doctrine, and has ascribed the fermentation in the dough solely to the resolution of the saccharine principle of the flour into carbonic acid and alcohol, in consequence of its being brought into a situation predisposing it to pass into the vinous fermentation.

To illustrate this point, let us consider what are the only other constituents of wheaten flour, besides the saccharine principle. They are starch and glutin; for the albuminous and gaining principles, both from their small amount, and from other circumstances to be hereafter considered, seem to be of little importance in the question. The phenomena exhibited in the decomposition of the saccharine principle, compared with the appearances and effects of the fermentation which takes place in dough, leave no doubt of their identity. The amount of saccharine matter contained naturally in all flour, is by no means insignificant; on the contrary, it is amply sufficient to furnish in its decomposition that quantity of carbonic acid gas, the development of which marks the progress of fermentation in dough. Thus M. Vogel, on analysing two specimens of ordinary wheaten flour, obtained the following results. From the *triticum hybernum*:

* Article *Bread*. Published in 1807.

Starch	68.0
Moist glutin	24.0
Mucilaginous sugar	5.0
Vegetable albumen	1.5

And from the flour of the *triticum spelta*, which is considered of a superior quality than the preceding, he obtained:

Starch	74.0
Moist glutin	22.0
Mucilaginous sugar	3.5
Vegetable albumen	0.5*

Prout † and Edlin have also made experiments, which lead to the same conclusion; the latter in particular found, that by merely washing wheaten flour with water, and then purifying the mucilaginous extract, he obtained 1½ per cent. of crystallizable sugar.

Since the presence of saccharine constituents in flour is thus established, and that in not less proportion than five per cent. according to the analysis quoted; and since the alcoholic fermentation of sugar is perfectly familiar to the chemist, the characteristics of which correspond with the fermentation in dough, there seems little room to doubt wherein consists the true fermentation which occurs in the art of bread-making.

A further consideration of the panary fermentation, must be deferred to another Number.

LONDON MEDICAL SOCIETY.

We are glad to see that "the huge, rusty, tricocked hat," has been removed from the table of the Society. We were very well satisfied that it would only be necessary to appeal to the good taste of the President and Council, to cause such lumber to be taken away. The "black staff," entwined by the "gilded serpent," remains. Why, we cannot tell, unless it be one of the standing orders of the Society, or one of the conditions of Dr. Fothergill's will; if only the former, the same authority which placed it there, can effect its removal. It cannot be called ornamental, and why retain such a gewgaw?

The last two meetings have not possessed much interest; the discussions have been loose and irrelevant, and no conclusions worth recording have, in consequence, been arrived at. If we may be allowed to give the Members a word of advice, we should say, stick to the text, and do not cavil about unimportant matters, so as to lose sight of the main subject of discussion. For example: Mr. Ray brought forward, at the last meeting, a specimen of ulcerated intestine, which he had taken from a person who died from what he thought was typhus fever; he remarked, that it had fallen to his lot to examine several cases lately of the same character, and that he had found the upper portion of the small intestines diseased; the mucous membrane being generally ulcerated. He was anxious to know, if any of the gentlemen present had observed any parallel cases; but instead of attending to this point, they began to quarrel about the seat of disease generally in typhus fever; some affirming, that disease was more frequently found in the lower portion of the small intestines than the upper; some, that it was invariably found in the lower portion. Thus the dispute was carried on to determine what were the appearances usually exhibited in the lower parts of the small intestines, when disease was found there, in which Mr. Langstaff, Mr. Lloyd, and others, were warmly engaged; indeed, Mr. Lloyd appeared determined to talk down every other person, by relating long stories about the poor people who came to his house in the Old Jewry, about his patients at Pentonville and Pancras, and God knows where,—until the point with which the discussion began was overclouded and forgotten. Dr. Burn, who made some sen-

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* Journal de Pharmacie, iii. 212.

† He ascertained 100 parts of wheaten flour to be composed of about

Starch	74.5
Glutin	12.5
Gummy and saccharine extract	12.0
A yellow resin	1.0
	100.0

—*Annales de Chemie et de Phys.* 340.

sible remarks on the necessity of accurately discriminating the various kinds of inflammation of the mucous membrane of the bowels, and of the mucous glands beneath it, could scarcely get in a word edgeways, such was the impetuosity of some members to tell how many patients they had lately examined, and so forth.

It is really a pity that so little deference should be paid to the ordinary rules of logic and sound reasoning in our medical assemblies. We hope the Members of the London Medical Society, will henceforth set a good example to the rest.

HOSPITAL REPORTS.

GUY'S HOSPITAL.

CASE OF STRANGULATED FEMORAL HERNIA, WHICH REQUIRED AN OPERATION.

Elizabeth Vincent, ætat. 67, was admitted into Guy's Hospital, under the care of Mr. Bransby Cooper, on Saturday, October 7th.

It appeared, from the patient's statement, that she had been affected with reducible femoral hernia for several years, but that it never attained a large size until the evening previous to her admission, when its increased bulk first attracted her notice; it soon became hard and painful, and she was unable, although she had strong desire, to pass her motions. On the following morning, the pain in the swelling being much increased, and the whole of the abdomen having become tender, medical assistance was procured, and the taxis was employed for about a quarter of an hour, but without success.

The patient was admitted into Guy's about four o'clock in the afternoon, and on examination there was found to be a tumour, of the size of a hen's egg, occupying the situation of the right inguinal canal, but it could be clearly traced rising from below Poupart's ligament. It was tense, tender to the touch, and the integuments were somewhat discoloured; the patient's countenance was anxious, the pulse quick, and she had vomited two or three times. She was placed in the warm bath, bled from the arm to the amount of twelve ounces, and the taxis was employed for upwards of a quarter of an hour by the dresser (Mr. Smith). The pain was relieved by the venesection, and this, together with the warm bath, occasioned a trifling relaxation of the integuments covering the tumour; its size, however, was not diminished. The patient being removed from the bath and put to bed, an operation was proposed, to which she would not consent, clinging to the hope of being relieved by medicine. A purgative enema was administered, which speedily returned unchanged, and a bladder, filled with the frigorific mixture, was applied over the swelling for upwards of two hours. These measures failed to produce any relief to the symptoms; the poor woman was at length induced to consent to the performance of an operation.

The operation commenced by making a longitudinal incision through the integuments, nearly the whole length of the tumour. A second incision was then made transversely, so as to be nearly at right angles with the first. The angular flaps were next dissected back, and the superficial fascia was thus exposed; this membrane, together with the fascia propria, were divided in the usual manner, and the sac was also carefully opened, from which a small quantity of dark-coloured serum escaped. The contents of the hernia were a large portion of omentum, covering and effectually concealing a small knuckle of intestine, of a dark claret colour, with a distinct line of demarcation between the healthy and strangulated portion. The omentum was considerably changed in character, but not decidedly of a gangrenous appearance; it was firmly adherent to the upper part of the sac. The stricture, which was found to be at the mouth of the sac, was freely divided, and the intestine was returned without much difficulty. The adhesions of the omentum with the sac, rendered its return incomplete; it was *pushed up*, but certainly could not be said to be separated. The external wound was closed by means of sutures and adhesive plaster.

When the patient was placed in bed, after the operation, she was extremely cold, and the pulse at the wrist was scarcely perceptible. Warm fomentations were ordered to the abdomen, and bottles filled with hot water to be applied to the feet. After a lapse of two hours, re-action had taken place, and two drachms of the sulphate of magnesia were directed to be given in peppermint water, and repeated every two hours until the bowels were freely relieved.

Oct. 8. Six doses of the salts and peppermint water were given, without producing any effect upon the bowels. A purgative enema was administered this morning, which brought away some indurated faeculent matter. The abdomen is very tender on pressure; the pulse small, and counte-

nance somewhat anxious. Ordered to take a dose of castor oil, and to continue the fomentations to the abdomen.

Evening. On visiting her at ten o'clock, we find the tenderness of the abdomen so much increased that the patient can scarcely bear the weight of her clothes. There is a slight blush of inflammation around the edges of the wound; the strapping was in consequence removed by direction of Mr. Callaway, and a poultice applied. The bowels have been relieved twice since the morning.

9. Pulse at the wrist feeble; the tenderness of the abdomen undiminished, but it is rather more flaccid; two motions were passed during the night. There was slight hiccup this morning for about two hours. The edges of the wound have a sloughy appearance, and there is a blush of dark coloured inflammation extending to some distance around; the sutures were removed, and a bread poultice, made with decoction of poppy, ordered to be applied. Continue the aperient mixture.

10. The patient had a severe rigor this morning about four o'clock; she has passed no motion during the night; the skin is hot, pulse small and quick, and the abdomen is tender. The edges of the wound have now widely separated, leaving a large sloughy opening; the blush of inflammation affecting the integuments is less distinct; the discharge from the wound is dark coloured, thin, and small in quantity.

At one p. m. Sir Astley Cooper visited the patient, and prescribed three grains of calomel, to be taken immediately, and a dose of castor oil to be given two hours afterwards. Stale beer-ground poultices to be applied to the wound, and the fomentations continued to the abdomen.

In the evening, at nine o'clock, the pulse was quick and jerking, and the countenance was anxious; the bowels had been acted upon twice by the castor oil. Ordered two grains of calomel and one grain of opium, and to take a dose of castor oil in the morning.

Oct. 11. The patient has had hiccup throughout the whole of the night. She has not passed any motion; the pain and tenderness of the abdomen is great, and the pulse quick; the tongue is moist. The discharge from the wound is dark coloured and offensive; the surface of the wound is not improved in appearance. She took a dose of castor oil this morning; the fomentations and stale beer-ground poultices are continued.

12. The bowels have been freely acted upon during the night. The hiccup is still troublesome; the pulse is feeble, and the countenance much depressed; this was the state of the patient at noon. We visited the patient a few hours subsequent to this period, and found her condition much improved by the exhibition of some port wine and strong beef tea, which had been given by the direction of Mr. Callaway. He also prescribed

Subcarbonate of ammonia, 6 grains;
Laudanum, 10 minims;
Camphor julep, 1½ ounce;

to be taken every three or four hours; the patient, however, refused to take the medicine.

13. Noon. The pulse is regular and much stronger than yesterday; the countenance is greatly improved; there is less tenderness of the abdomen. The discharge from the wound is more copious, but still retains a peculiar cadaverous odour, which has characterised it from the commencement. The bowels have not been acted upon since yesterday. Ordered to take two table spoonfuls of castor oil immediately. Continue the poultices; strong beef tea to be freely given, and four ounces of port wine during the day.

14. The patient expresses herself as feeling better; the countenance is good, and pulse moderately firm. The discharge from the wound is a thin brownish coloured pus, mixed with flaky portions, and also a small quantity of oily matter. The bowels were relieved twice yesterday by the castor oil; the beef tea and wine are given, and also a small quantity of brandy, and the poultices of beer grounds are continued to the wound.

16. There is but little variation in the state of the patient since our last report. The wine, brandy, and beef tea are continued.

16. There is considerable febrile excitement to-day; the skin is hot, the pulse is quick, and the patient complains of pain; the tongue is slightly furred; the bowels are lax. The discharge from the wound is copious, and of the same character as before described.

18. The skin is less hot, and pulse not so quick. Several hours sleep were obtained during the night. The surface of the wound is becoming cleaner. Ordered to take *four grains of sulphate of quinine* twice a-day, and to continue the wine, with nourishing diet.

20—28. The patient in the period included in the foregoing dates experienced so little alteration, that it would be rendering the case prolix to enter into the daily details. It will be sufficient to remark that she went on progressively improving; the discharge from the wound continuing copious and ill-conditioned until within the last day or two, when it may be presumed

the whole of the omentum had come away. On the 25th, the bowels were so much relaxed, that it was necessary to exhibit a cretaceous mixture, with laudanum.

30. The wound is healing, and the patient is in other respects doing well.

CASE OF HYDROPS ARTICULI.

There is a patient at this time in Guy's Hospital, whose knee is affected with this dropsical disease. The effusion of serum within the cavity of the joint, which constitutes this disease in a great majority of instances, can be clearly traced as the consequence or termination of either common or specific inflammation, affecting the synovial membrane. In the present case, however, there is no evidence of inflammation having prevailed in or about the joint. The effusion has been gradual, and the disease throughout unattended with pain.

The patient is a young woman from Cambridgeshire, 23 years of age, of florid complexion, and what may be termed a woman of large frame, but of lax fibre. She was admitted into the Hospital August 9, on account of disease of the knee joint, under the care of Mr. Key. She stated, that the part had been affected upwards of six years; the left ancle first became swollen, afterwards the knee felt stiff, and at the same time weak, but not painful, and the joint gradually enlarged. The only further particulars which we could elicit were, that the joint went on gradually increasing, that it sometimes felt weaker and stiffer than at other times, and that she consulted Sir Astley Cooper, who recommended issues and subsequently blisters to the part. Within the last fourteen weeks, previous to her admission, she said that she had felt considerable uneasiness in the part, which she attributed to the circumstance of pumping cold water over the knee, having adopted this plan at the suggestion of some medical man.

The appearances which the parts presented on examination stand in our case-book as follows:—The joint very much distended, the enlargement being confined to the fore-part and sides, and extending to a considerable distance up the thigh; the swelling consequently not bounded by the attachments of the capsular ligament at this part. The integuments not discoloured; the tumour soft, giving way to pressure, but elastic, the indentation being speedily removed. Fluctuation evident. When the limb is placed in the extended position, the greater part of the enlargement appears on the inner side of the joint, the swelling being divided into two portions by the patella and tendon passing across its fore-part. There is not much impediment to the motions of the joint. When the knee is bent, the swelling is of course rendered tense, and the fluctuation cannot be so well distinguished as when the leg is extended. The patient's general health is good; the disease being apparently a purely local affection.

The treatment Mr. Key directed in this case was to apply the *plaster of ammoniacum with mercury* to the joint, and over this a tight bandage.

Our report of this case taken on 21st of October is—the size of the joint is evidently much less than when the patient was admitted; the only means that have been pursued, are the application of mercurial plaster, with the bandage. The patient expects to leave the Hospital shortly.

We are glad to find that Sir Astley Cooper has determined on going through the Hospital *regularly* once a week, on *Thursday*, for the purpose of giving his opinion as consulting surgeon on particular cases.

ST. BARTHOLOMEW'S HOSPITAL.

CASE OF FRACTURED RIBS, IN WHICH PARALYSIS AND DELIRIUM SUPERVENED, ON THE FIFTH DAY FROM THE OCCURRENCE OF THE ACCIDENT.

Mathew Murphy, æt. 43, was admitted into Rahere's Ward, June 10, 1826. This person, originally a sailor, for the last seven years had been employed in unloading vessels by the water-side, and spent several years in the East Indies, where he was in the habit of drinking raw spirits to a great extent. On the evening previous to admission, being drunk, he received a hurt on his left side. Passing the night in great pain, and experiencing difficulty of breathing, he came to the hospital next morning. A fracture of the left seventh rib, near its angle, was readily detected. The breathing was but slightly affected; the pulse full and frequent; tongue white and foul. The rib-bandage being applied, he was bled to ℥xiv., and ordered to take hydr. submur. gr. ij. pulv. jalap. xii., and the mist. salin. ter die.

11. Slept but little, and felt great pain on applying the hand to the injured part; pulse full and strong; bowels freely open; the tongue remained white; he expectorated, with difficulty, some viscid mucus. Bled to xvi℥. and took linctus containing syrup of poppies and squills.

12. Blood drawn yesterday; buffed and cupped; passed a very indifferent night;

still complained of pain in his left side; bled to ℥xij., and ordered the mist. sennæ comp.

13. Pulse considerably reduced; respiration easy; skin and tongue moist.

14. It was observed to-day that the mouth was rather drawn to one side, but he denied the existence of any pain in the head, and the symptoms were generally favourable; continued the saline mixture.

15. Pain in the head; delirium and feverishness came on in the night, and it became necessary to apply the straight waistcoat; the bowels had not been acted on since the afternoon of the 13th. The mouth was now obviously drawn upwards, and towards the left side; pulse full and strong; there was delirium present, and considerable heat of skin, more especially about the head; tongue furred and dry, with a brown crust in the centre, and red towards the margin, the action of the organ remaining unimpaired. The man was violent and irascible. Bled to ℥xviij.; the head shaved, and constantly covered with cold cloths; calomel gr. iij. statim; and three hours afterwards, ℥ij. of the mist. sennæ comp. Blood drawn, buffed and cupped.

16. Delirious the whole of last night. Pulse quiet, and bowels relieved. House Surgeon directed twenty leeches to be applied to the head in the evening.

17. Much improvement observable in all the symptoms; still talked incoherently. Pulse feeble; bowels open; removed the straight waistcoat. From this time he gradually improved,

23. Bowels confined; calomel gr. iv. statim.; liq. ammon. acet. ℥i. cum magnes. sulph. ℥i. every six hours.

29. The tongue had a foul, white appearance; pulse tolerably quiet; no appetite, and restless at night; pain in the head; he took ℈i hydr. subm. made into five pills, one every four hours. A blister was directed to be applied between the shoulders after taking two of the pills.

July 1. Much better, and has quite lost the pain in the head. Mouth rather sore. Ordered broth diet.

ANEURISM IN THE BRAIN.

We introduce this case into our report, solely on account of what was discovered on post mortem examination; and to put on record, in the pages of THE LANCET, an instance of such uncommon disease as aneurism of the arteries of the brain. Little or nothing could be accurately ascertained of the case, save that the patient had experienced a paralytic attack two years previous to his death, which had deprived him of the use of his left side,—that he had gradually regained, in some degree, the use of his members, and been in the hospital some time with a painful affection of the limbs, which the physicians (for it was a physician's case) had termed rheumatism, that it had been treated as such with colchicum, &c., and being much relieved, was about to leave the hospital; but a few days previous to his death, had been seized with a slight attack of fever, which carried him off. On examination, an effusion of serum into the ventricles was discovered, which sufficiently accounted for his death; but on examining the base of the brain, an aneurism of the size of a nutmeg was discovered in the right middle cerebral artery, immediately after it is given off from the carotid, in the fissura magna Sylvii.

MORBID ANATOMY.

Post Mortem Appearances in a Case of Apoplexy.

Mr. Lawrence examined the body of a patient received into the hospital on a Friday, and who died on the next day, having been in a comatose state from the time of his admission; he was between 30 and 40 years of age, and a stout, strong man. On removing the dura mater, an evident flattening of the convolutions presented itself; they had completely lost their convexity, the surface of the brain appearing as though it had been permanently pressed by some flat substance (this being more evident on the left than on the right side). On minute inspection, the impression of the fibrous texture of the dura mater was plainly visible on the surface of the convolutions. The veins were turgid; the appearance of the surface of the brain denoted effusion having taken place. On removing the right hemisphere, and cutting into the right lateral ventricle, it was found to be considerably distended, and filled with bloody-coloured serum,—the septum lucidum still remaining entire. On taking off the left hemisphere, on a level with the corpus callosum, Mr. Lawrence cut into the very portion from which a considerable quantity of blood had been effused into the substance of the brain; the texture of the part was soft and pulpy, and bore the appearance of ecchymosis. The large cavity containing the coagulum extended from the anterior part of the middle lobe, to nearly the posterior part of the posterior lobe, and about three fingers in breadth; the texture of the containing cell was every where soft and pulpy; there was a lacerated communication between the cell, and the left lateral ventricle; the latter, however, did not contain coagulum, merely serum. The size of the left ventricle was considerably diminished, by the cell containing the coagulum pressing the sides of the ventricle together. Mr.

Lawrence observed, that blood was seldom or ever effused directly into the ventricles, but into the substance of the brain, and thence made its way mechanically into the ventricles. The cavity of the fifth ventricle was plainly seen between the layers of the septum lucidum, being larger than usual. It was noticed during life that the pupil of the left eye was contracted, whilst the right was dilated.

CASE OF DISEASE OF THE RECTUM,

With ulcerated opening into the Perineum; the Urine being evacuated through that opening and the Anus.

This patient, who has been in the navy, and always lived very irregularly, began to suffer inconvenience in discharging his urine, and to use bougies in the supposition of stricture, six years ago; and although it was sometimes better, sometimes worse, it never healed. About Christmas 1825, he became so ill as to be confined to the house, and continued so until the period of his admission, Feb. 23, 1826. He is emaciated and weak; his urine is discharged partly through the anus, partly through an ulcerated opening, about a quarter of an inch in length, at the right side of the perineum; only a few drops pass occasionally by the penis. No instrument can be introduced into the bladder. Examination per rectum discovered nothing capable of elucidating this state of disease.

May 5. A large abscess, which had formed near the rectum on the right side, was opened; it healed in three weeks.

23. The regulation of the bowels has been deficient; he has now pain in the abdomen. On examining the parts, lumps of fæces are distinctly felt in the cæcum, sigmoid flexure of the colon, and other parts of the intestines; they are moderately firm, and can be moved by pressure of the fingers. Two pills of aloes and soap, in equal parts, were ordered to be taken every two hours; a large glyster, after six or eight doses of the pills, if necessary. The glyster could not be satisfactorily administered, and the pills, of which several doses were taken, produced no effect. The rectum was again carefully examined, the fore finger introduced to its utmost extent, and a contraction discovered at its very end. A rectum bougie, as large as the fore finger, was guided into this aperture, and entered, easily passing up in its whole length. It was left in the bowel ten minutes, but no discharge of fæces took place on its removal, and a chain of lumps could be distinctly felt through the whole course of the colon.

July 2. A drop of croton oil was taken, which caused sickness, but did not act on the bowels.

3. The tube of the stomach pump was carried, with some difficulty, through the stricture, and five pints of warm water thrown up into the large intestine; it returned tinged with feculent matter, and some liquid discharges took place subsequently. In a few days the pump was again used, and three quarts of water thrown up, much liquid fæces were discharged for many days afterwards, and the general bulk of the abdomen, as well as the fæcal lumps, were considerably reduced. On one occasion a large motion of softish consistence, but figured, came away. After this time he sunk rapidly in the last stage of emaciation and debility on the 18th of August.

His body, which had been *removed from the Hospital*, AFTER HAVING BEEN LEFT BY THE BEADLES FOR SEVEN HOURS in the ward, on an oppressively hot day, was examined on the 19th. The rectum presented an example of genuine scirrhous affection, its muscular coat being thickened, indurated, and intersected by numerous short, white threads. In the seat of stricture, just at the brim of the pelvis, the mucous coat had been destroyed by ulceration, so that the surface of the stricture itself was formed by the denuded and indurated muscular tunic. All the soft parts surrounding the diseased bowel were thickened, and extremely indurated, so that the contents of the pelvis formed one hard mass. The ulcerated mucous membrane presented several irregular shreds below the stricture, and among these there was a free opening into the excavation between the rectum and front of the bladder. The lymphatic glands in the back of the rectum, and those on the sides and back of the pelvis, were indurated, and had lost all appearance of natural structure; they were converted into hard masses of compact, yellowish substance. A similar change, in various degrees, was traced along the whole chain of absorbent glands, in front of the spine, nearly to the diaphragm. The left external, internal, and common iliac veins were inflamed, and plugged up with a dark-brown coagulum, closely adhering to the sides of the vessel, and completely filling the cavity. The coats of the vessels were red and thickened, and the surrounding cellular texture consolidated by slight adhesive inflammation. A similar change, in a less degree, was found in the vena cava, extending to the entrance of the renal veins. When laid bare externally, it was unnaturally red and thick, and filled with some firm substance. When the tube was cut open, a large mass of greyish lymph was found in it, slightly adhering to its sides; it separated entirely in taking the parts out. When floating in water, this lymph had a most delicately reticulated structure on the surface, resembling fine lace; this part was

tolerably firm and compact, while towards the centre it had the consistence of cream, and of a light reddish, grey colour; the iliac veins were completely obstructed; this was not so clear respecting the cava. The muscular coat of the bladder was considerably thickened, as in cases of bad stricture, without being altered in structure; the mucous membrane was entire, and apparently healthy in its surface, except that it presented, near the orifice of the urethra, a few yellowish spots with red margins. When the coats of the bladder were divided, the mucous membrane appeared about a quarter of an inch thick, and that generally over the whole bladder; but on closer examination, the membrane itself seemed natural, and the additional thickness appeared to arise from alteration of the connecting texture between it and the muscular coat; it had a white and somewhat granular appearance, and was not indurated. Was it scirrhous affection spreading from the rectum? The urethra opened, soon after leaving the bladder, into a large irregular cavity, with which the ulcerated opening of the rectum, and the aperture in the perineum communicated. The lungs were filled throughout with the ordinary greyish tubercles, of various sizes; some had proceeded to suppuration, but apparently without discharging their contents externally; the intervening structure was in a natural state.

CASE OF PHAGEDENIC SORES OF THE FACE, ARMS, AND LEGS, SUCCEEDING TO GONORRHŒA, AND CURED BY THE LOCAL APPLICATION OF MERCURY.

——, æt. 38, was admitted on the 20th of July. The patient states he has been affected with gonorrhœa ten or twelve times, but never had any primary symptoms of syphilis. The last gonorrhœa occurred between three and four years ago. In March, 1826, he went into St. Thomas's Hospital with a severe sore throat, eruptions, and small ulcers on his head and legs; he remained in that hospital till July 2; he was salivated, and discharged cured, the throat being quite well, eruptions and ulcers having left discolourations of the skin.

July 20. There are now several circular sores covered with thick brown scabs upon the forehead and face, and numerous (chiefly circular) phagedenic ulcerations of various sizes, from that of a crown piece downwards, on the arms, thighs, and legs. Their surface is foul and bloody; the edges partially ragged; the discharge thin, and they are acutely painful. There are two rather larger sores upon the left leg, with characters approaching to those of sloughing phagedena; these are more painful than the rest. The uvula is completely destroyed, and the soft palate extensively adherent to the back of the pharynx; the appearance of the fauces is considerably altered by the ulceration which these parts have undergone at a former period, and the consequent cicatrization. He complains of great weakness; pulse 100, and feeble; he gets no rest at night; tongue is clean, and he has a good appetite. The character of the sores, and the destruction which has taken place in the throat, marks this as a case of phagedenic disease, which will probably be aggravated by the internal use of mercury; the local use of that remedy may be advantageous, as a means of correcting the unhealthy conditions of the ulcerations; the sufferings of the patient require narcotics. Ordered extract. conii gr. v., every six hours; cinnabar fumigation night and morning, to the ulcerations; poultices and simple dressing; milk diet, and ʒvi. of port wine daily.

28. It was necessary, on account of the great number of sores, to make use of the fumigating box; but it was abandoned, after three trials, on account of the patient's great weakness, and the severe pain he experienced. The fumigation of the ulcers on the leg was continued with the small machine, the others being partly dressed and partly poulticed.

29. He was ordered to take decoctum sarsæ comp. ℔j. cum ʒij. of the extract daily, and five grains of the pil. saponis c. opio, every eight hours. He is now much better; the sores have lost their phagedenic character, having healthy red granulating surfaces; the pains are nearly gone; the gums are becoming very sore. The fumigation to be discontinued altogether.

30. He is nearly free from pain, and the sores all healing.

August 13. Treatment continued; all the sores healing rapidly; granulations formed in such abundance, that the surface of the ulcerations is considerably elevated; he was, shortly after this period, discharged cured.

A RARE CASE OF DISLOCATION OF THE THIGH, DOWNWARDS AND BACKWARDS, ON THE SPINE OF THE ISCHIUM. *

Thomas Sefton, a watchman, aged 40, of a strong and robust habit, was brought to this hospital about 3 o'clock, p.m., on Tuesday the 24th of October, having sustained a violent injury from a fall.

He states that between 12 and 1 this morning, while going on duty, a fellow-watchman gave him an unexpected push with some considerable force, which impelled him forwards several yards in a half falling direction. In endeavouring to regain the

* refer to Sir A Cooper's work on Dislocations of the Thigh Page 30

lost balance of the body, his foot slipped off the pavement into a gutter, which turned the knee inwards at the same time that he fell with his body forwards. The man further states, that the force was applied more on one side than directly behind, and somewhat from above, as the aggressor had previously jumped on a step, and then on him; while in the act of falling, he felt something 'crack,' as he expresses it.

From this time he lost all power of moving his limb; he was assisted on the back of another man, and then conveyed home. He remained there till the time of his coming to the hospital, a space of about 15 hours. No reduction had been attempted during the time.

It was apparent to every one, on the very first appearance of the man, that some serious injury had been sustained, as fracture or dislocation, for there was complete loss of power over the right limb.

Upon examining the limb, on the right side, it appeared, when the pelvis was fairly fixed, to be lengthened about half an inch; the limb could scarcely be said to be either everted or inverted; if any thing, it was certainly the latter.

The principal characteristic marks then, were the decided vacancy in front of the thigh; we could feel the edge of the tensor vaginæ femoris and sartorius muscles, and then the fingers passed into a cavity; the trochanter major was further back, and not so prominent as on the corresponding side; and, in addition to these marks, there was, as we before remarked, an elongation of the limb, to about the extent of half an inch.

These circumstances then being taken in conjunction, Mr. Earle immediately decided there was a dislocation, and the man was accordingly removed to the operating theatre, where he was placed on a bed, and the dislocation reduced in the following manner:—The pelvis was fixed by means of a sheet passed between the thighs, and firmly secured to a staple, the body being slightly bent; a wetted towel was next passed round the dislocated thigh, just above the knee, (and *badly* secured, for on making extension, it slipped considerably,) to which the pulleys were attached, and extension commenced not quite at half right angles with the trunk. Immediately on his being brought into the theatre a dose of tartarized antimony was given him, and this was repeated at intervals of a few minutes during the extension, until nausea was induced.

Extension had now been kept up for nearly twenty minutes, when Mr. Earle ordered the patient to be bled freely, and he lost between 20 and 30 ounces of blood before he felt any degree of syncope. An assistant who had passed a towel round the upper third of the thigh, and had it secured on the back of his neck, now attempted to lift the bone in its place by elevating his body, but without effect, and Mr. Earle was about to alter the mode of extension; the pulleys a few moments before had been relaxed, when he forced the upper portion of the thigh forwards, at the same moment rotating the knee outwards, and had the satisfaction of hearing the bone slip into its proper situation.

As the man is of a very robust habit it has been found necessary to cup the seat of injury, and enjoin strict antiphlogistic measures. On the whole, however, he has gone on tolerably well, and is now fast recovering.

Remarks.—The foregoing case formed one of the subjects for Mr. Earle's clinical lecture on Saturday, when that gentleman indulged in the following observations:—"It has been stated in a work recently published by Sir Astley Cooper, in the most unequivocal manner, that a dislocation *downwards and backwards cannot take place.* In this case, however, it is clear the head of the bone rested, not on the ischiatic notch, but on the place of junction of the ilium with the ischium, at the spot where the sacro-sciatic ligament is attached. Now dislocation of the head of the bone into the ischiatic notch is a rare occurrence, and this positive declaration I confess I do not like. To lay down the law in this way, is assuming an authority which one individual, however high his rank in the profession, is not justified in doing; and this assertion appears to rest on one old case, where the head of the bone was found resting on the pyriformis muscle, and had formed around it a new capsule. This is the only anatomical fact of the head of the bone being thrown upwards in this way. The recent cases brought forward are five, and two only of these fell under his immediate observation. These are not sufficient I think to warrant such an assertion, more especially as the contrary has been asserted by Boyer, Richerand and others. I think we should pause before we formed our opinion upon the dictum of one individual, however respectable he may be."

Mr. Earle related another case to which he was called, where the same appearances presented themselves as in the present case, and he had no doubt of its being a similar dislocation, although in this case the limb was at first slightly everted; it became subsequently rather inverted.